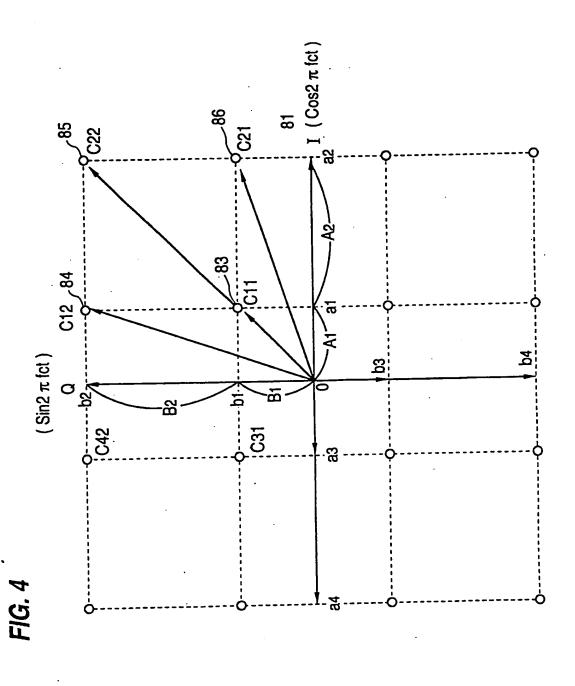


F/G. 3

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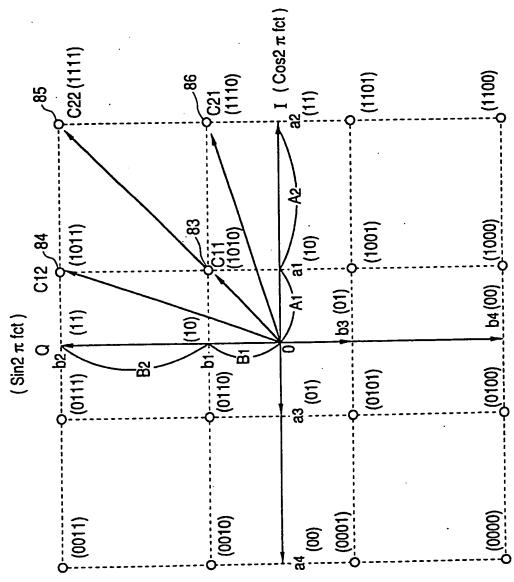
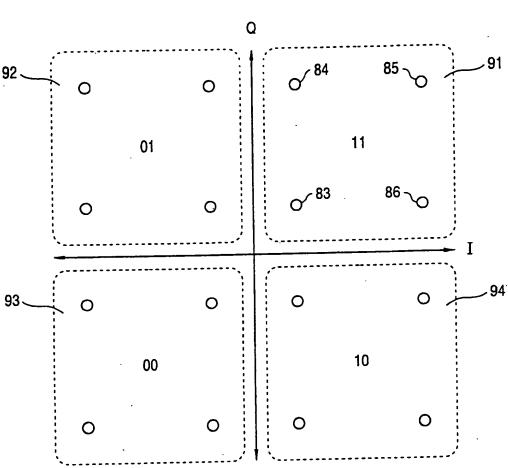


FIG. 5





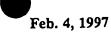
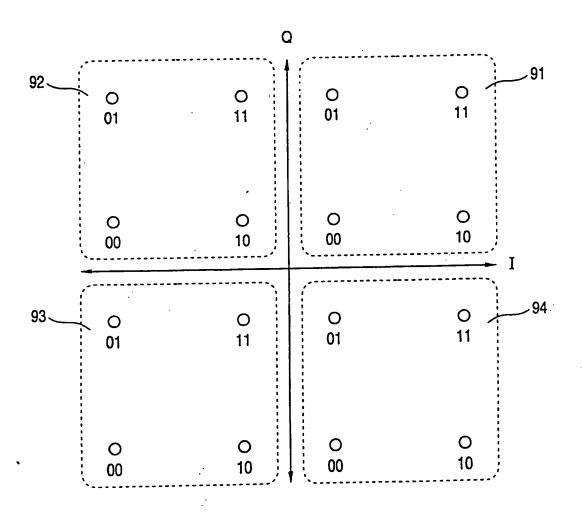


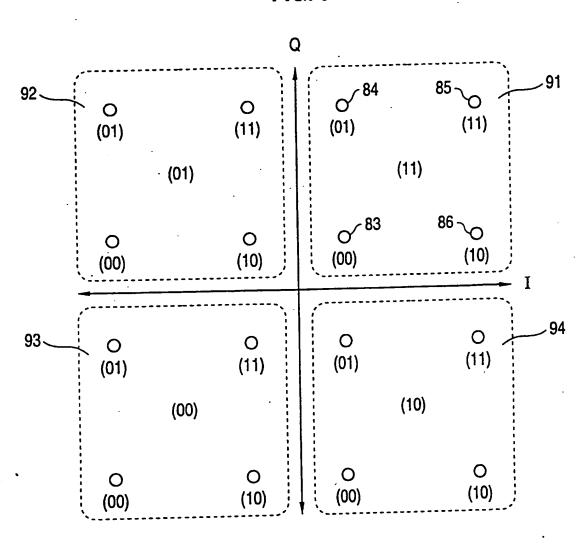
FIG. 7



U.S. Patent

FIG. 8

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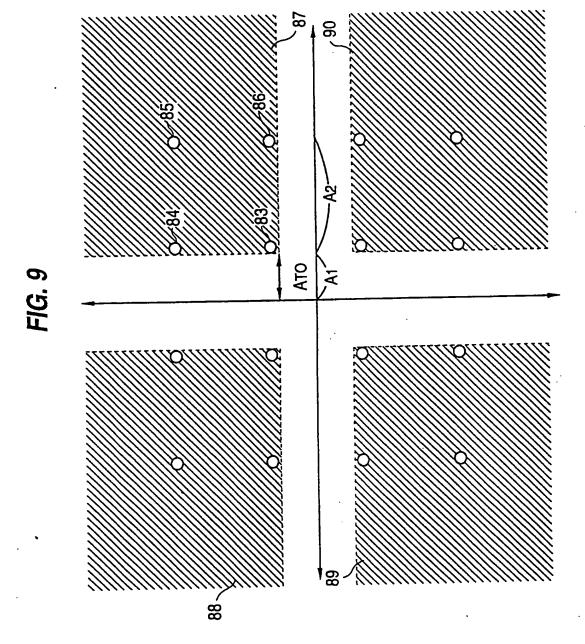
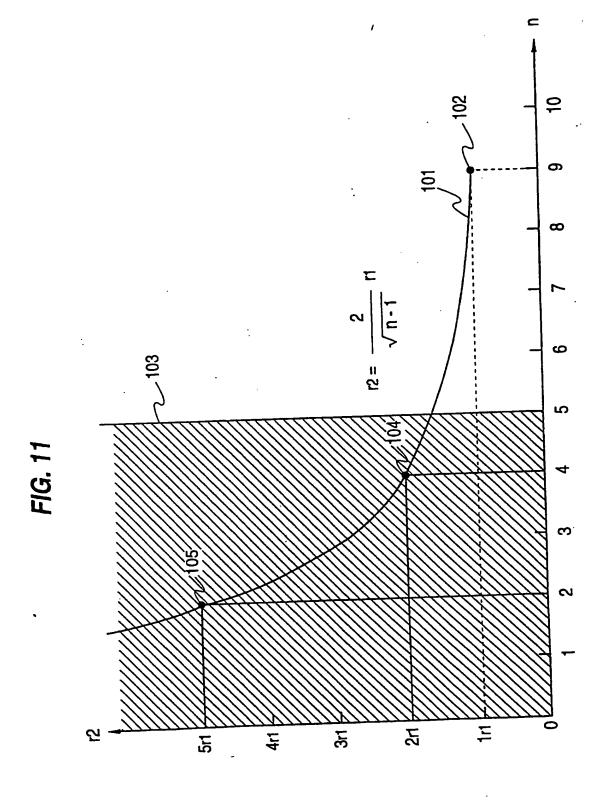


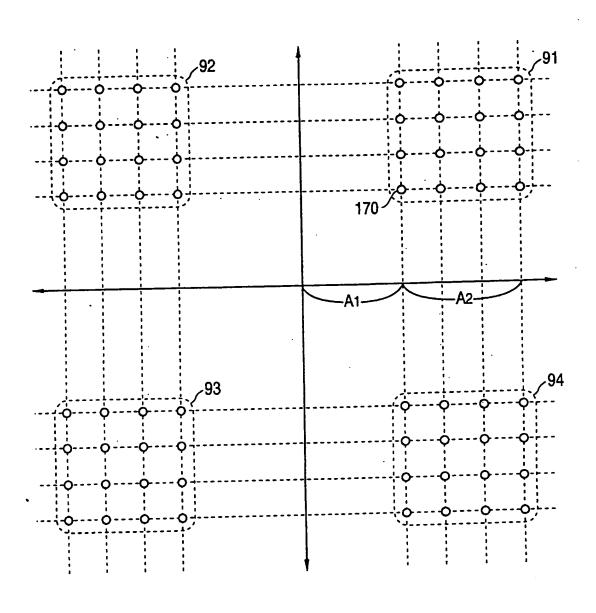
FIG. 10 90 ح A(16) 96 **B**2 95 A(4) 93



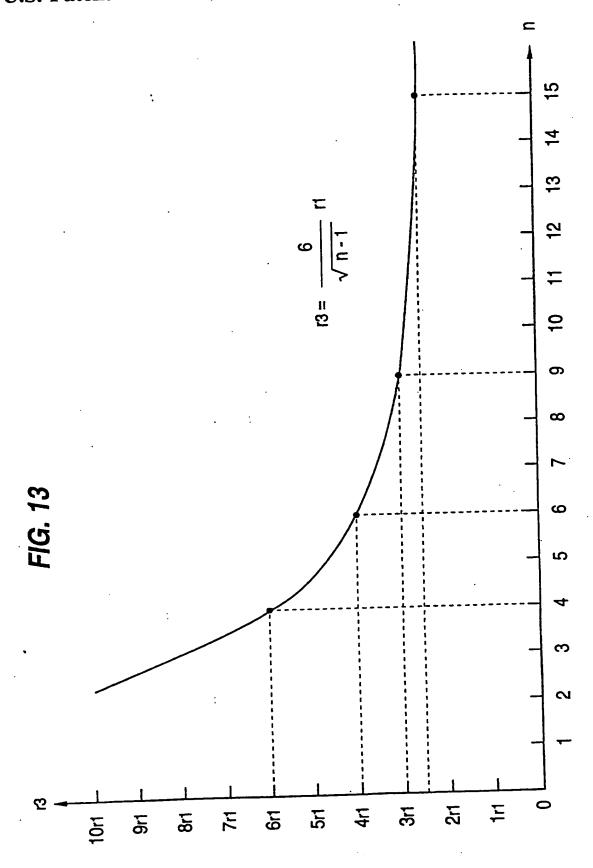


U.S. Patent

FIG. 12







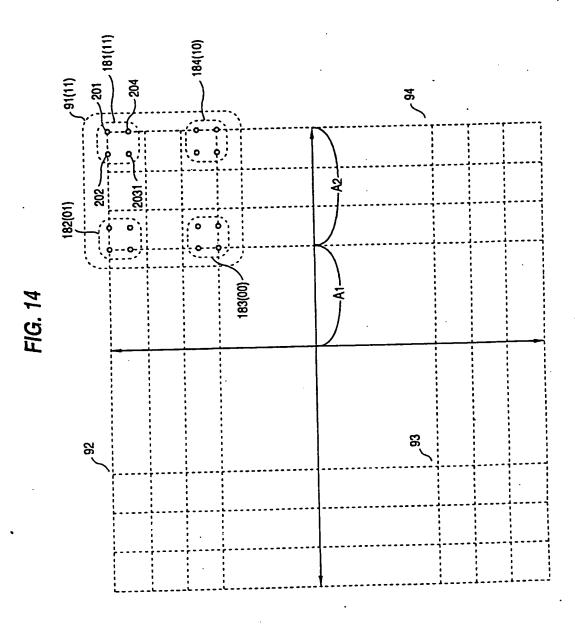
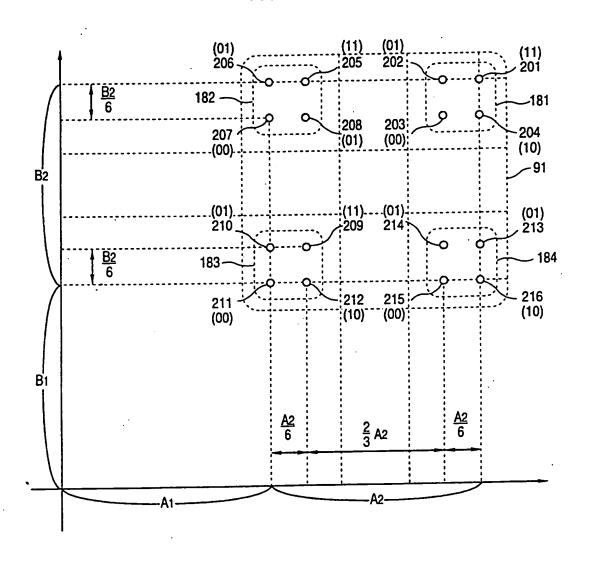
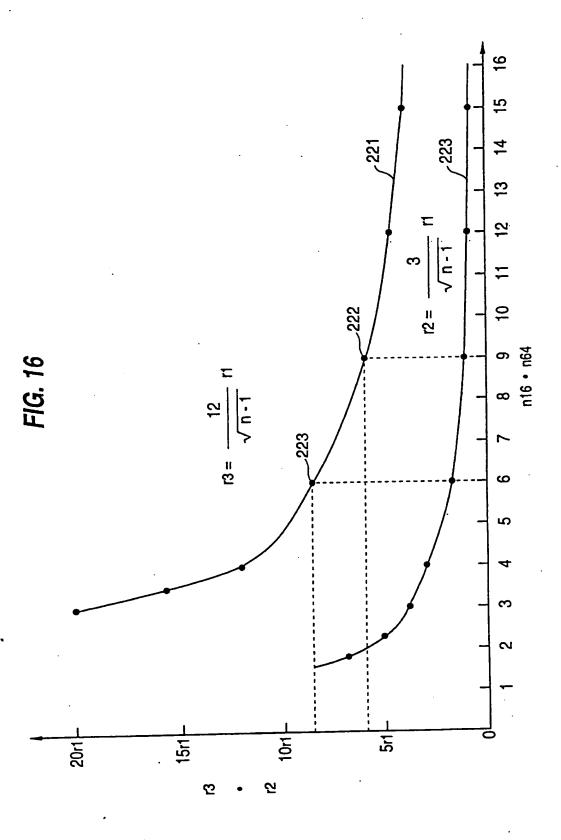


FIG. 15





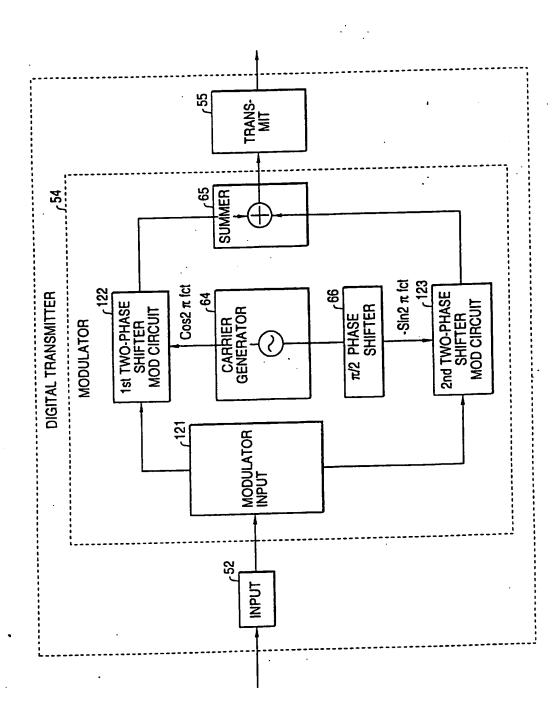
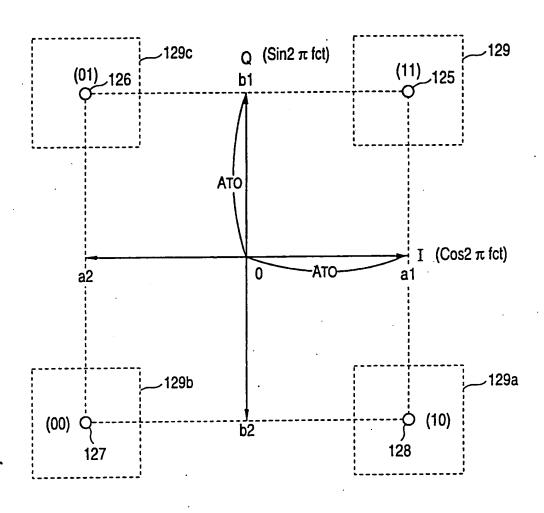
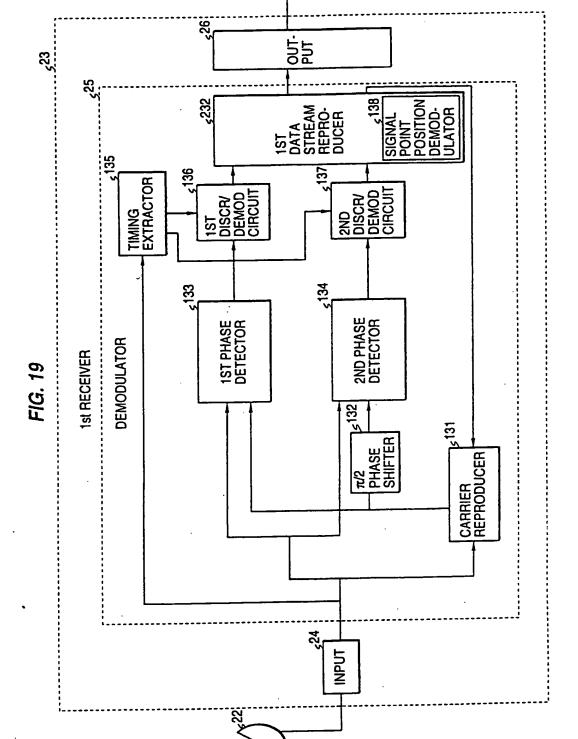


FIG. 1

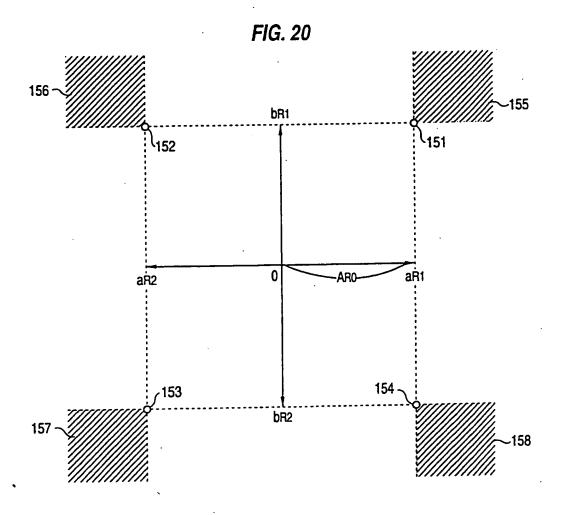
FIG. 18





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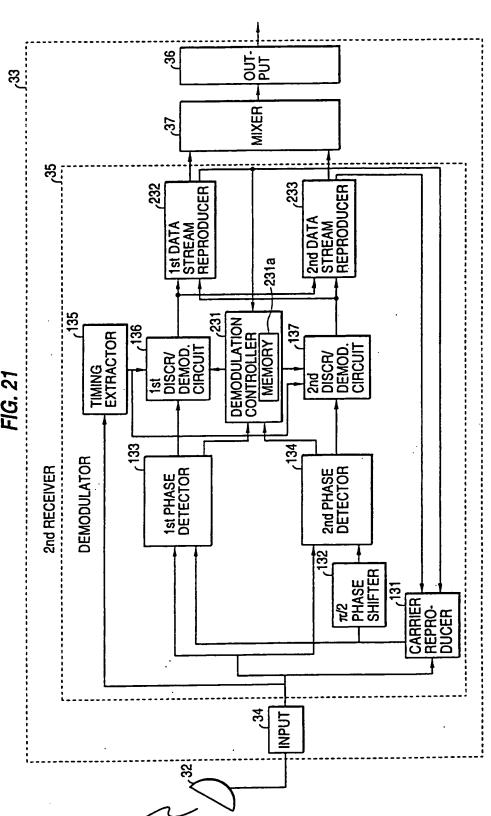
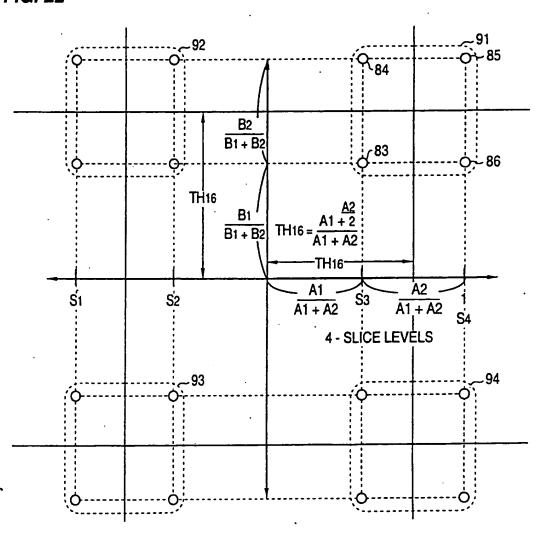


FIG. 22



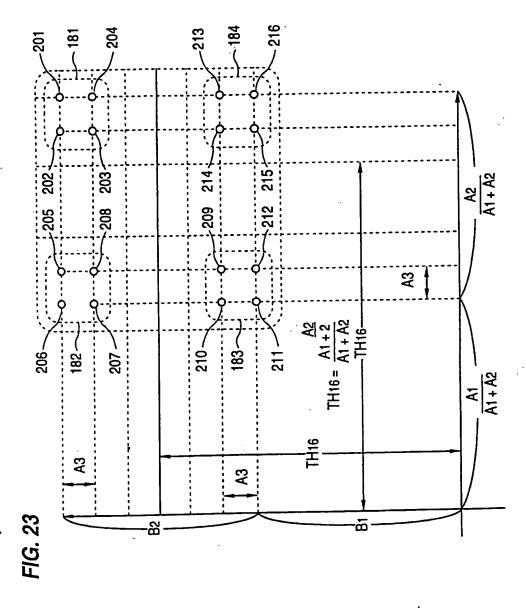
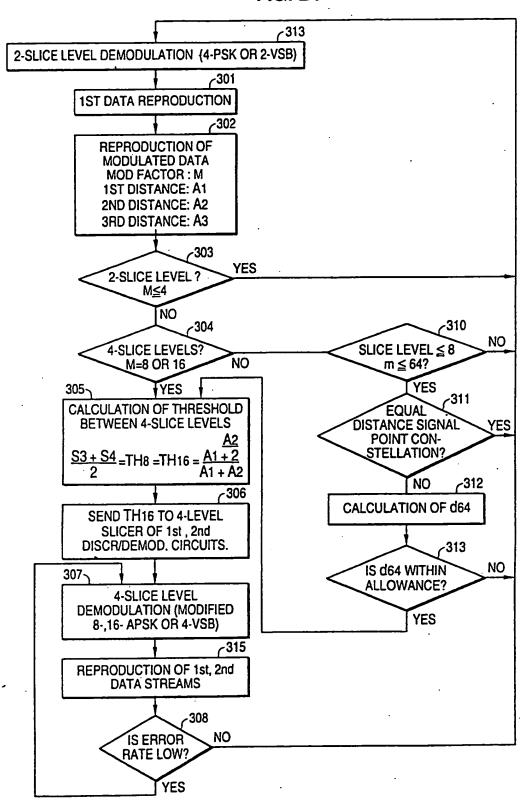
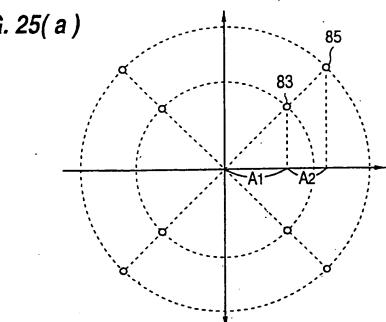
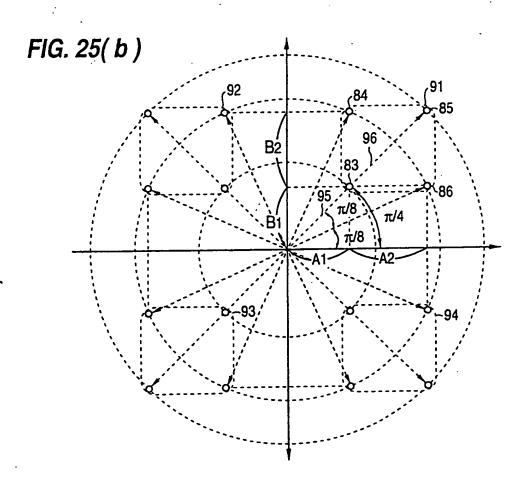
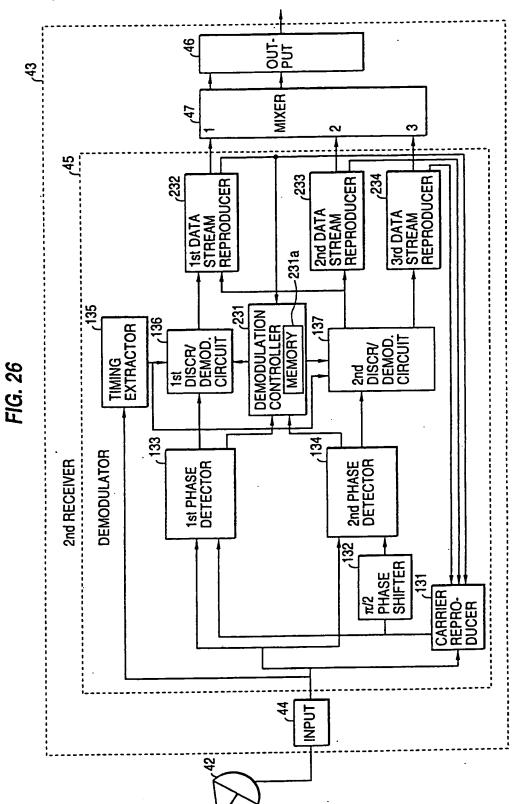


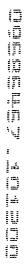
FIG. 24











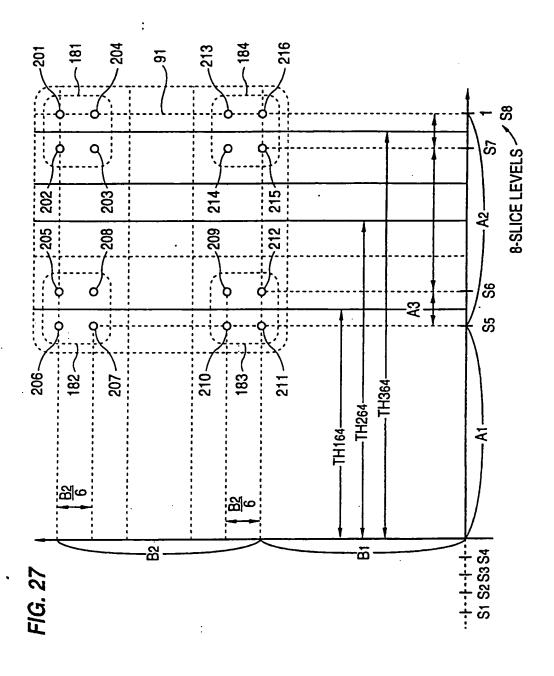
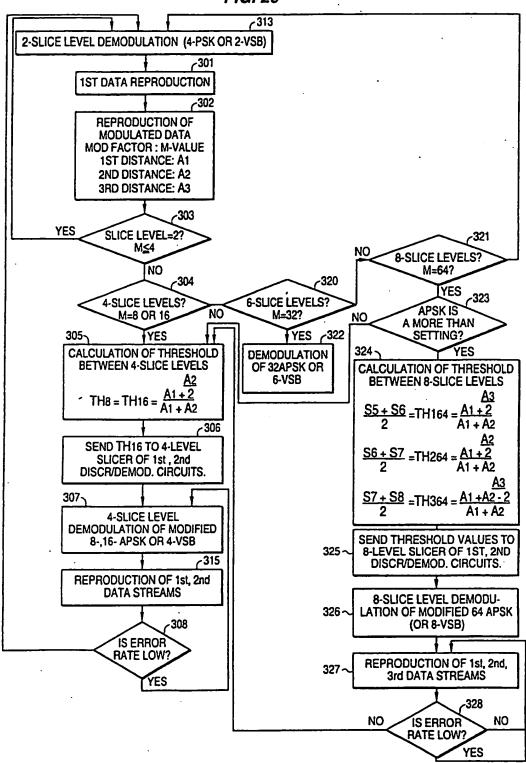
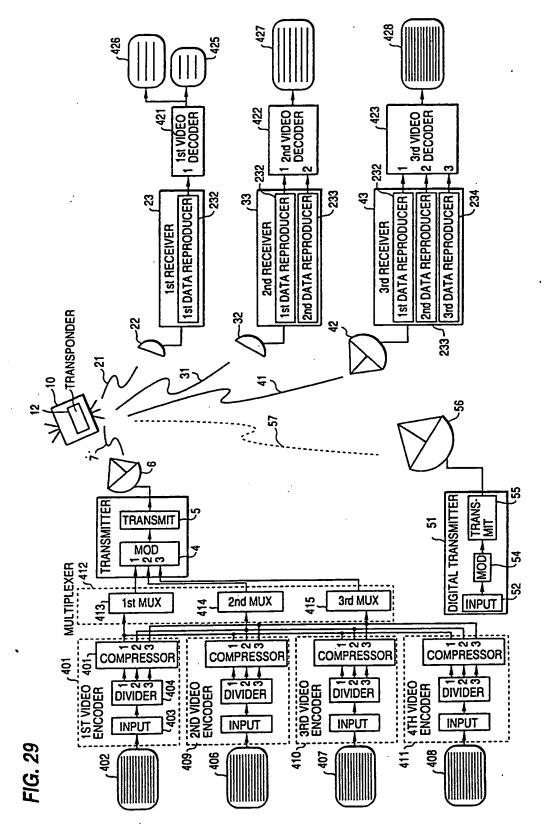
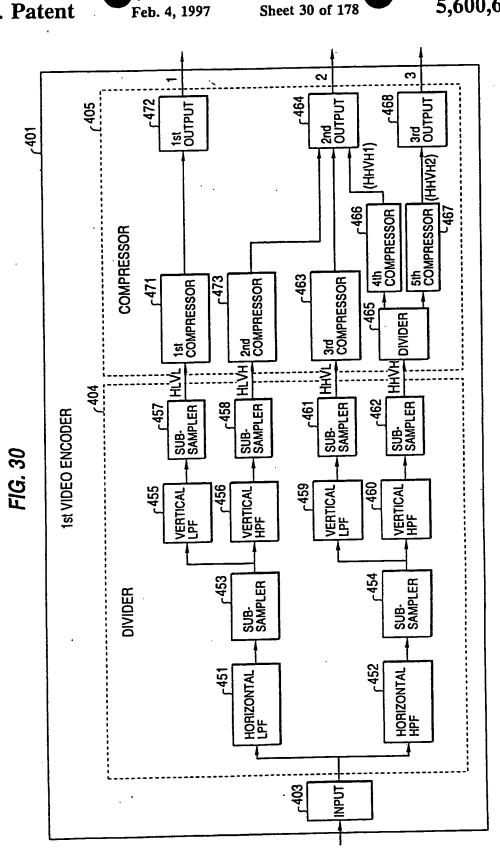




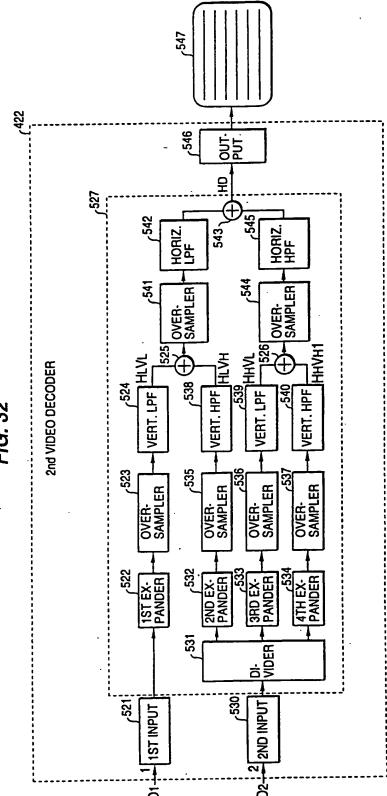
FIG. 28

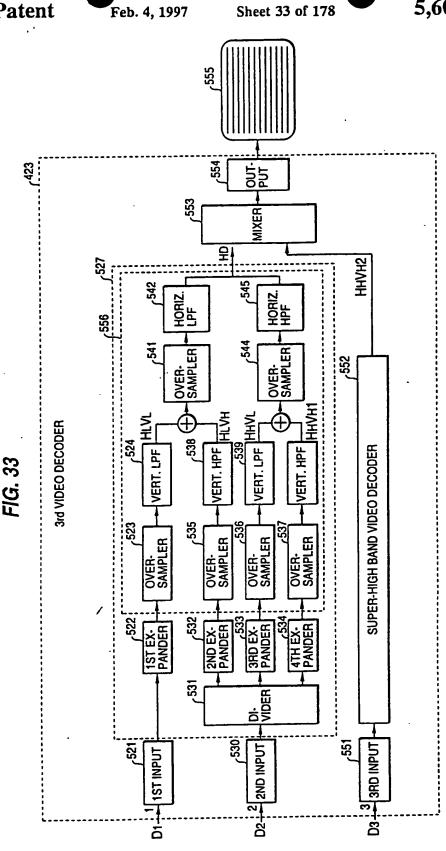


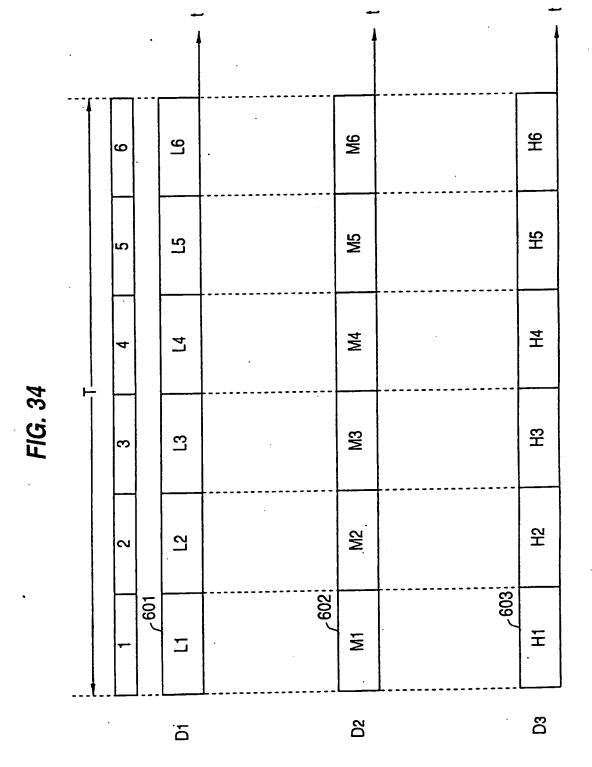


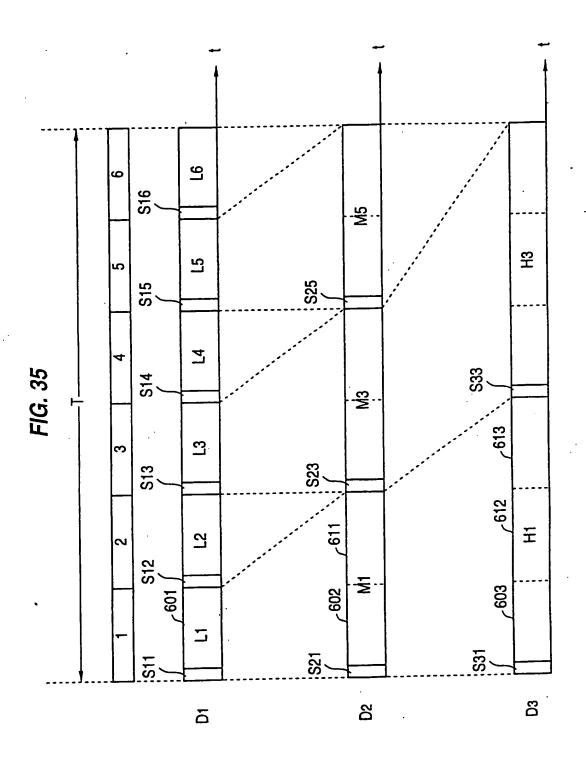


**1ST VIDEO DECODER** EX-PANDER 505 DESCRAMBLER -501





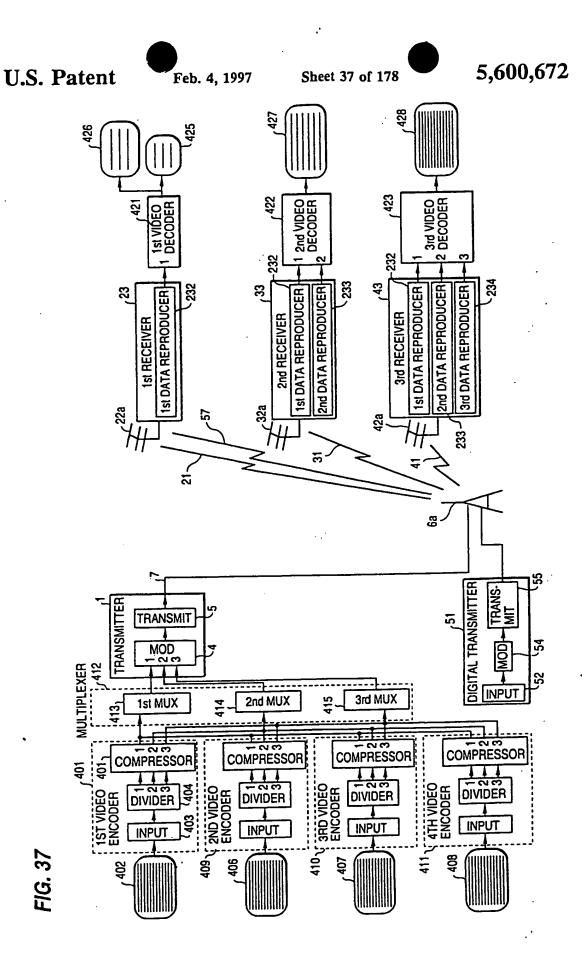


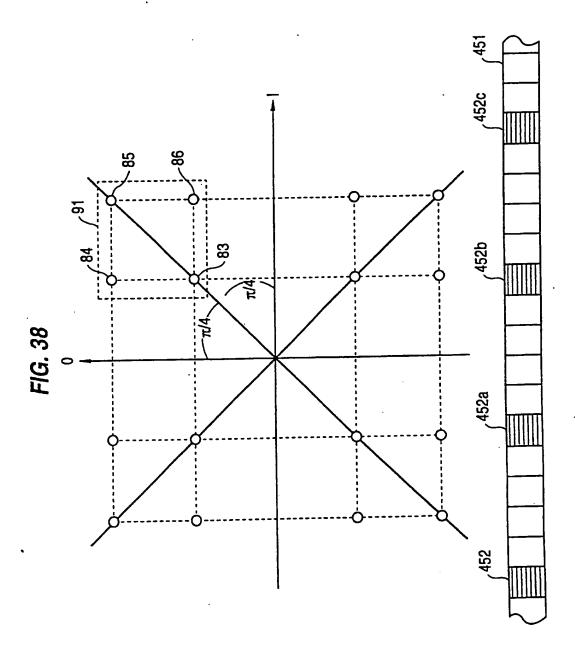


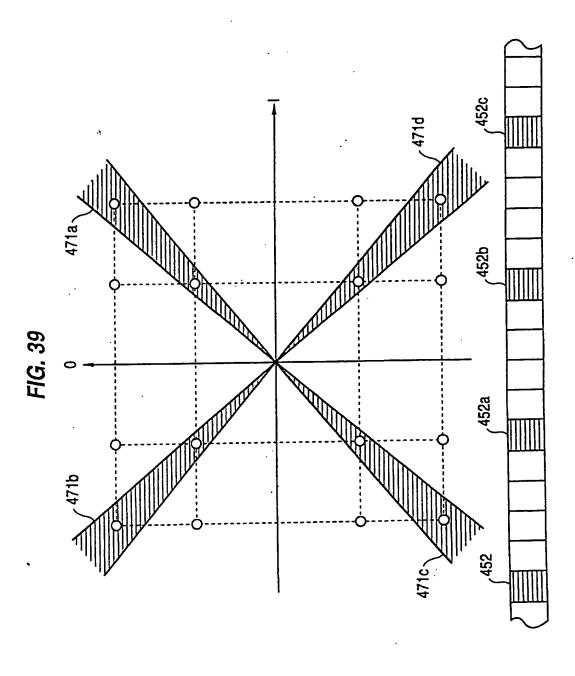
ස

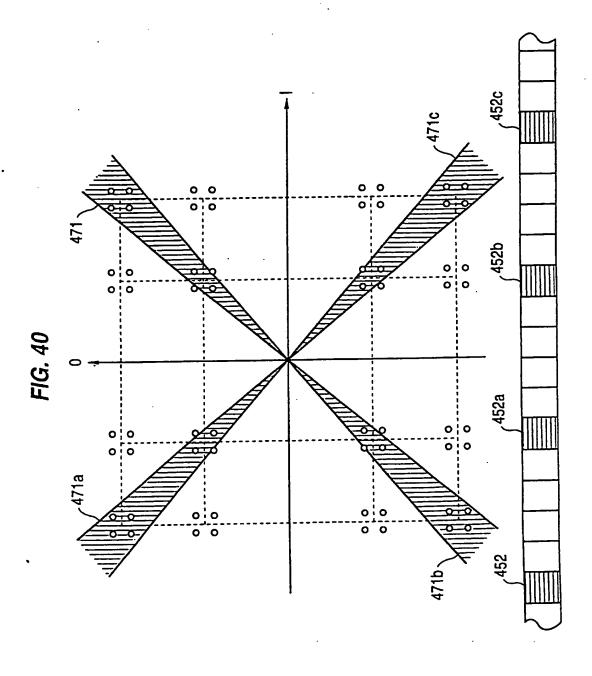
**D**5

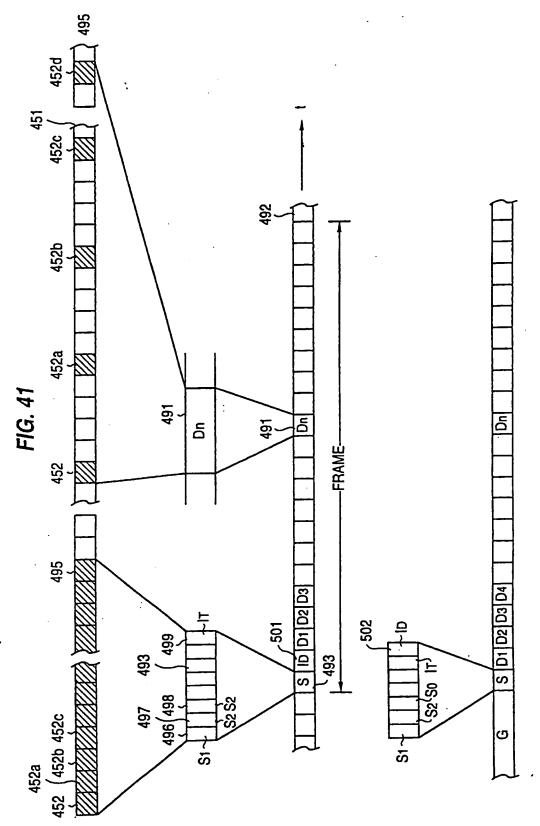
5

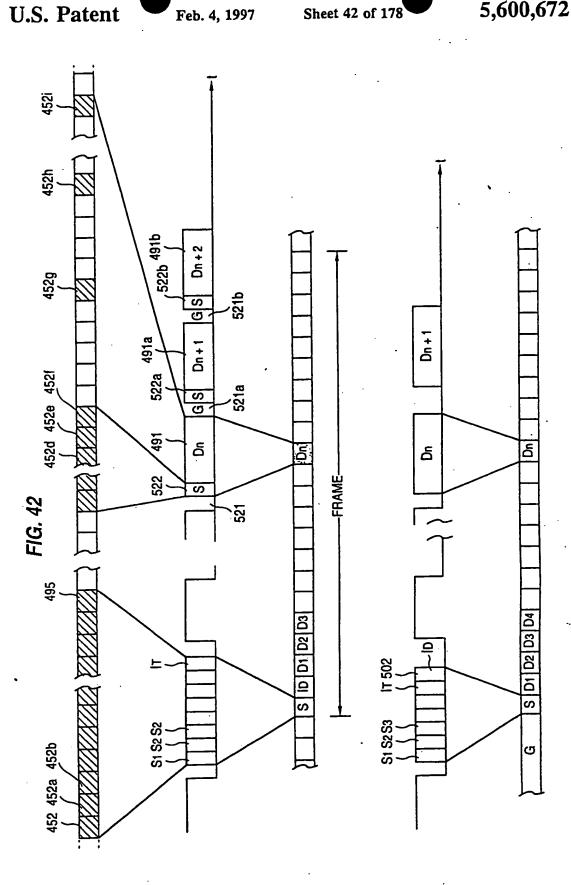


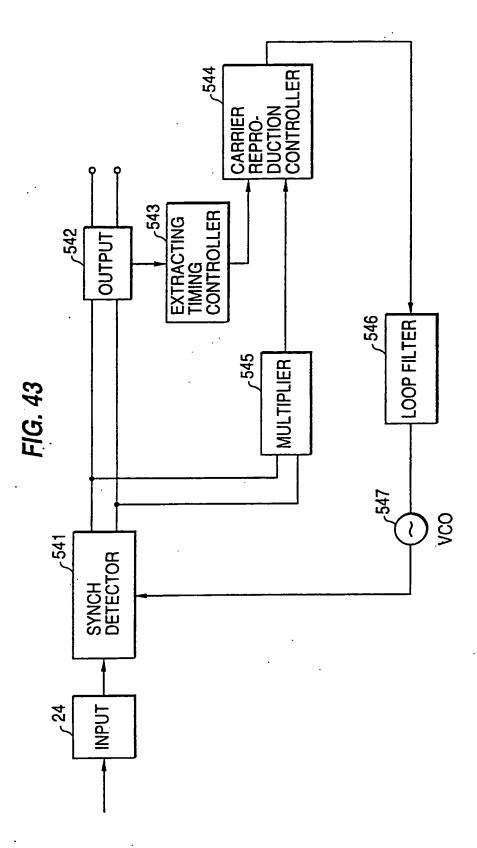


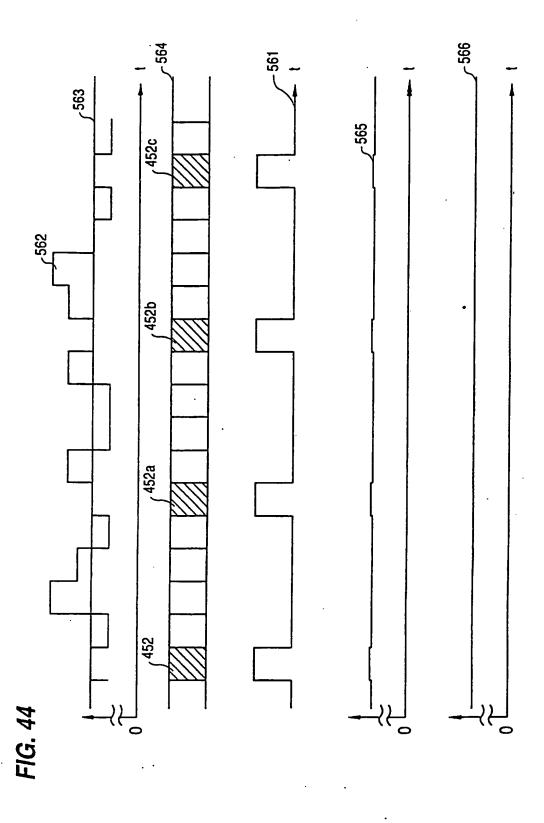


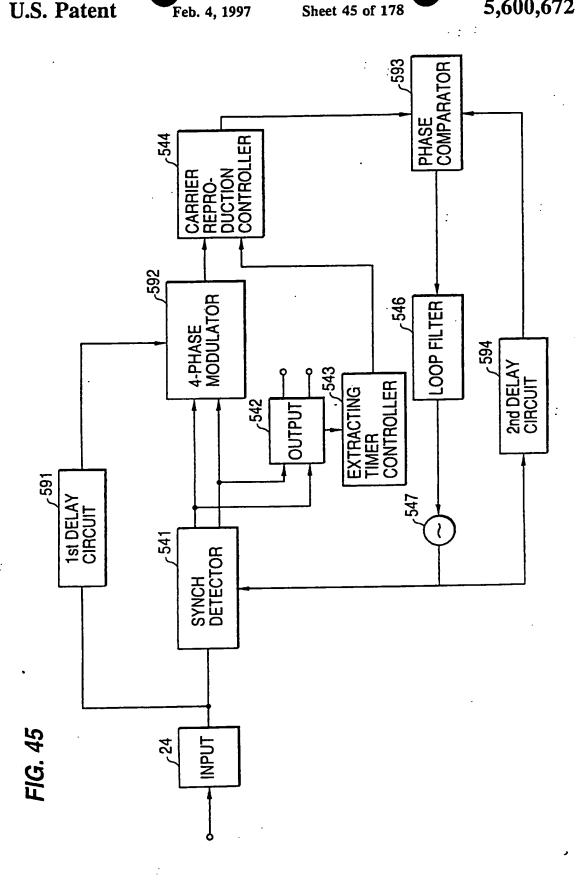


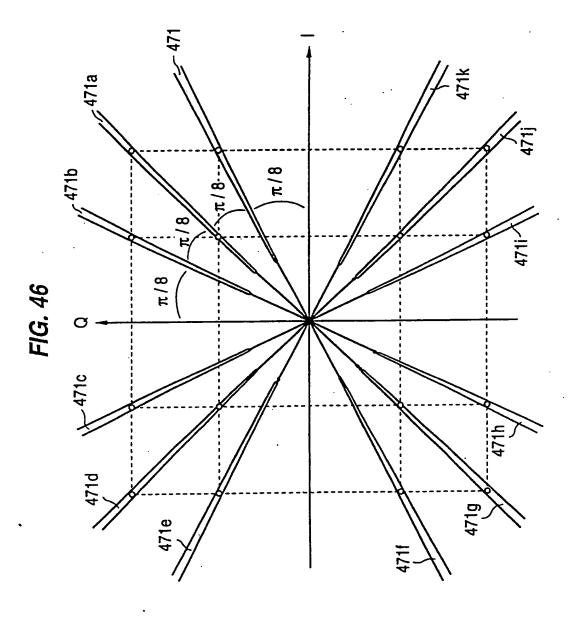




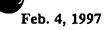


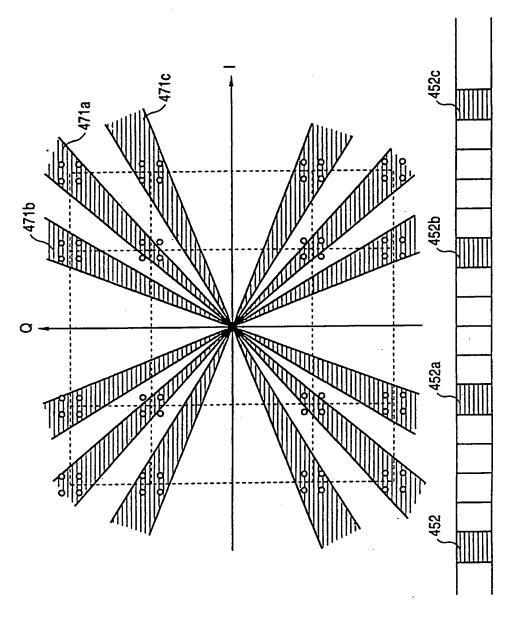












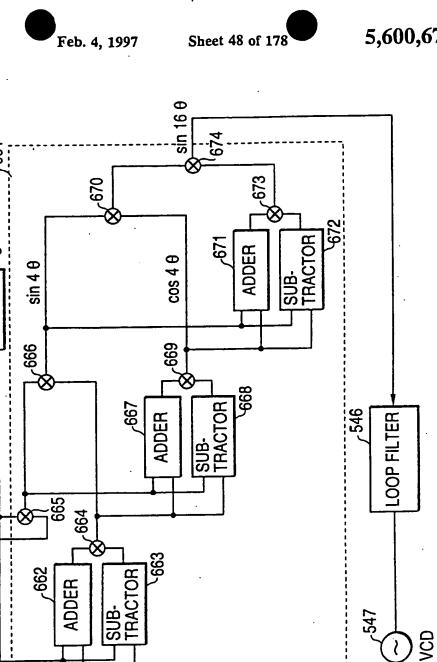
7G. 47

OUTPUT

FIG. 48

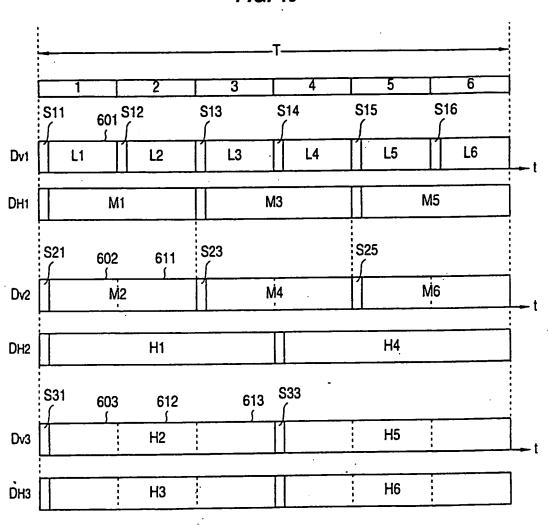
sin 0

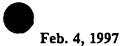
SYNCH DETECTOR

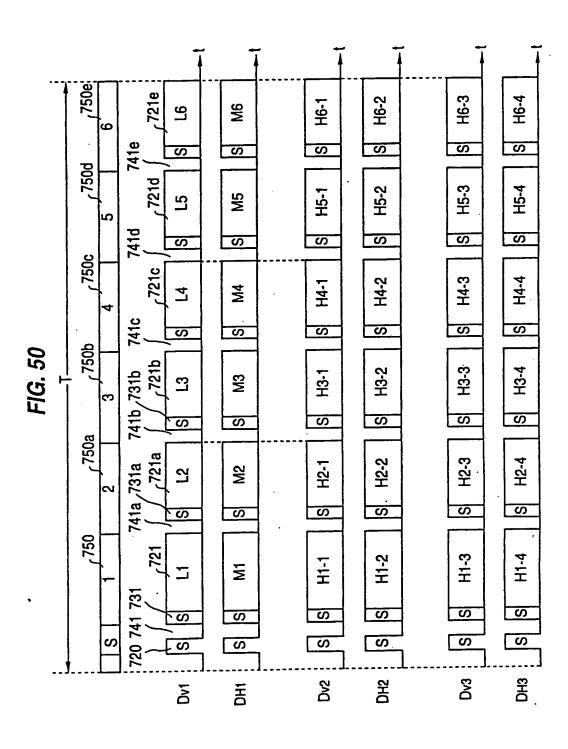


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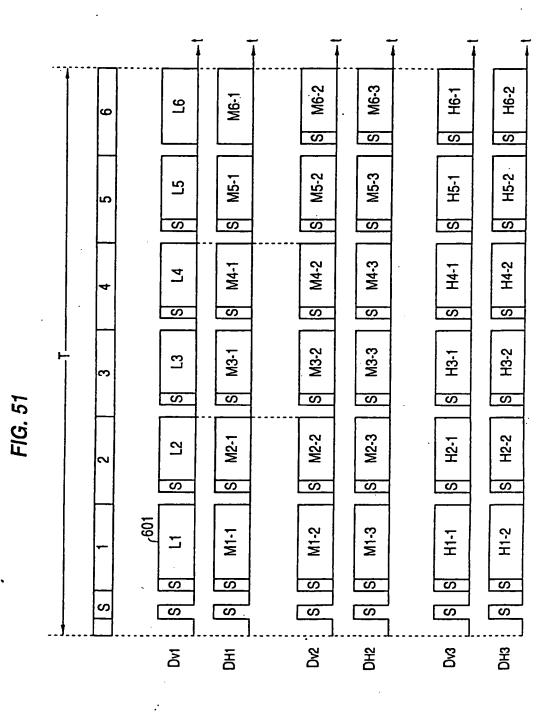
FIG. 49

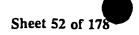


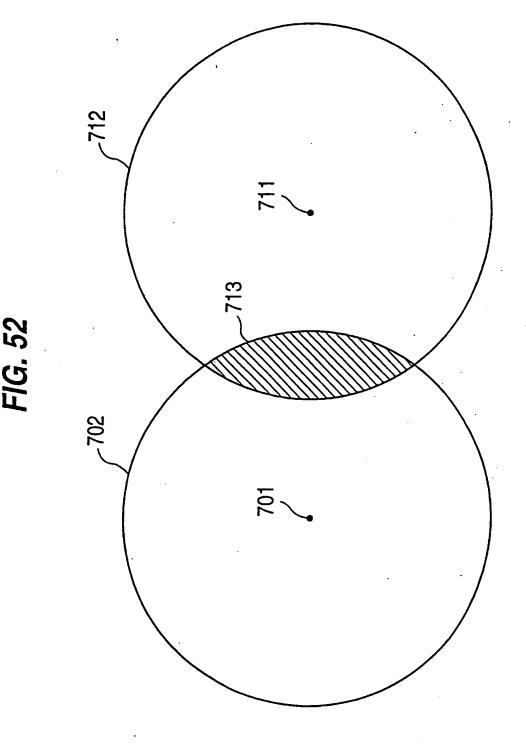


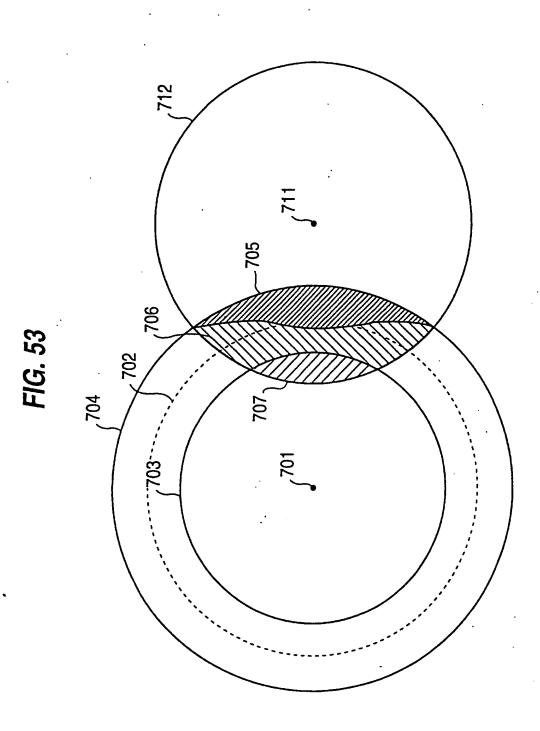


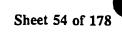












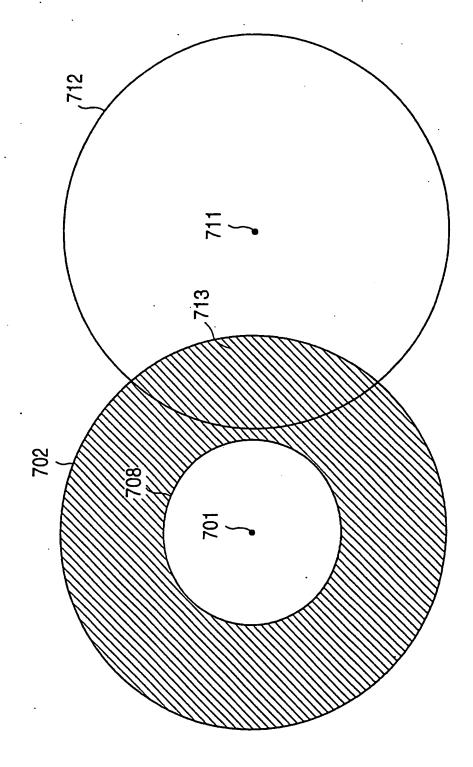
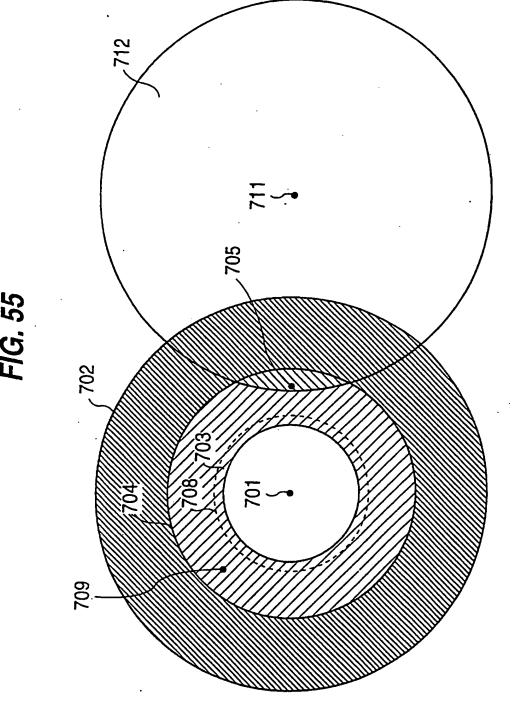


FIG. 54

ELLICH CO IN ILLI.







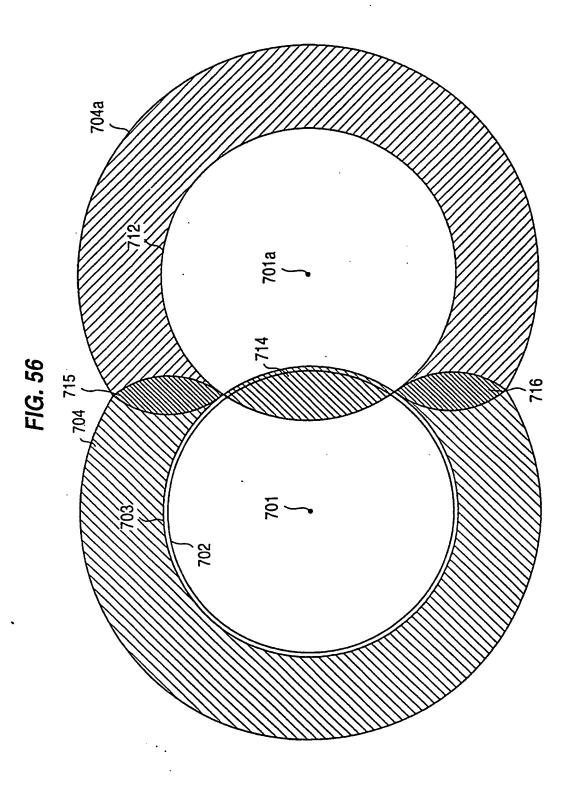


FIG. 57

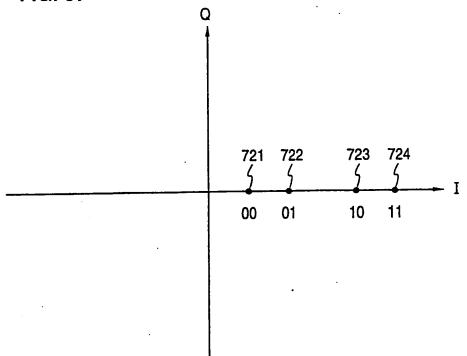
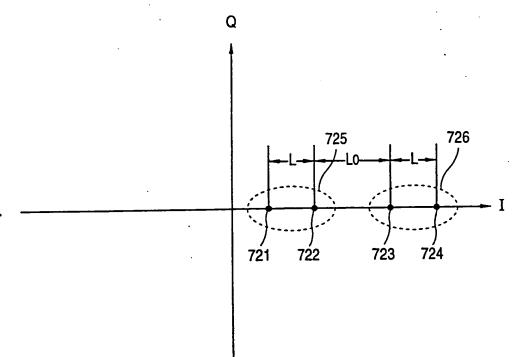
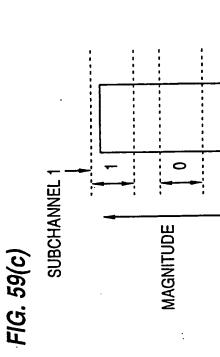
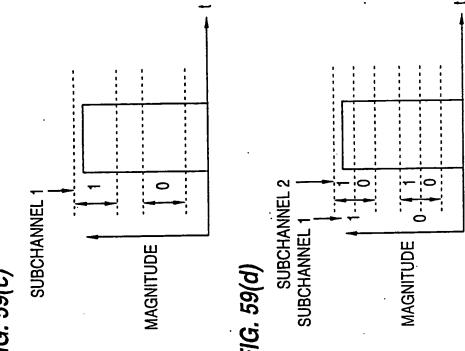
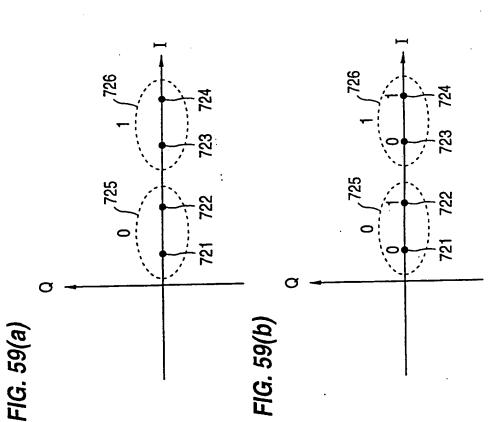


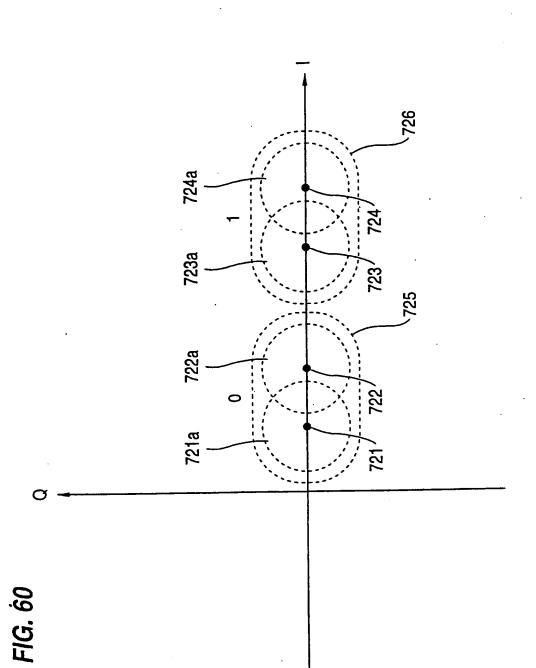
FIG. 58



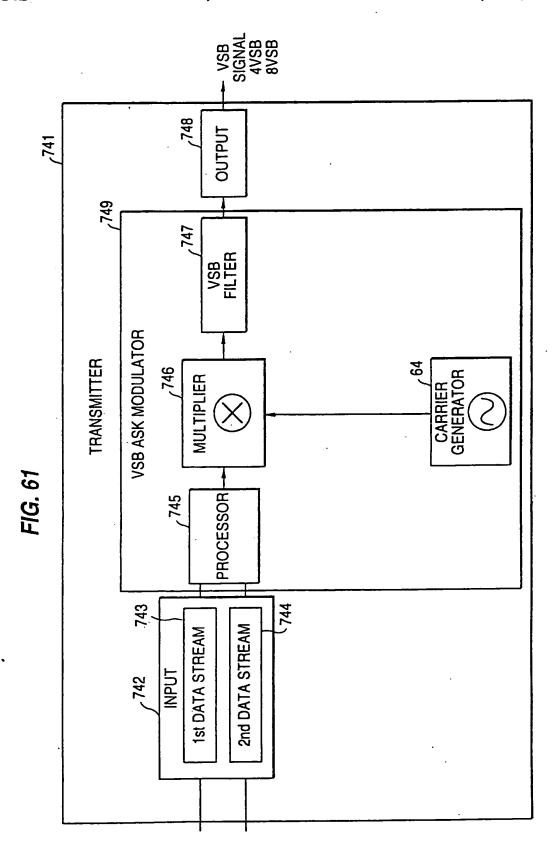


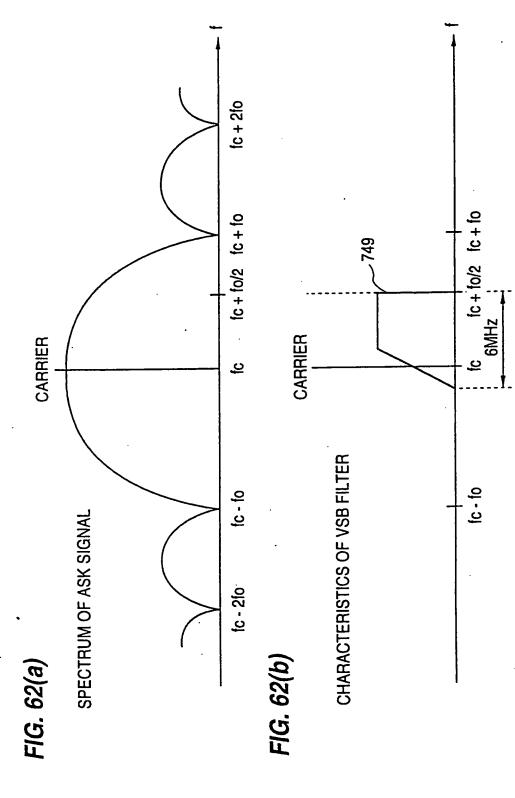


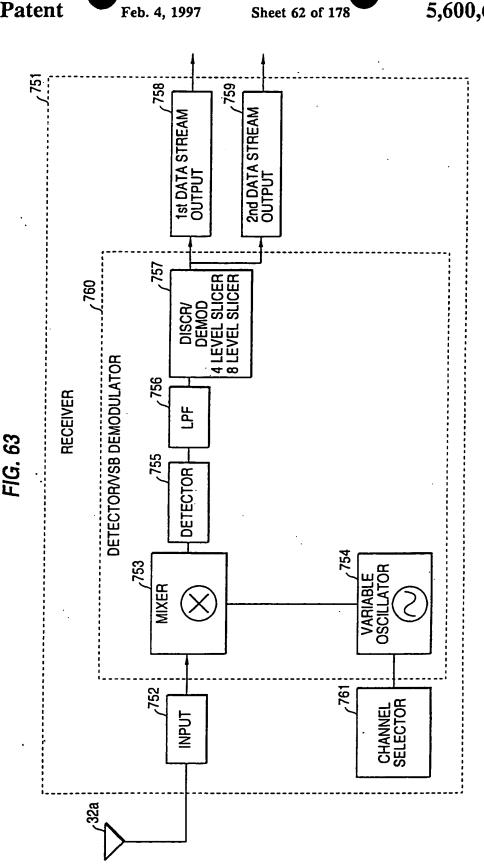




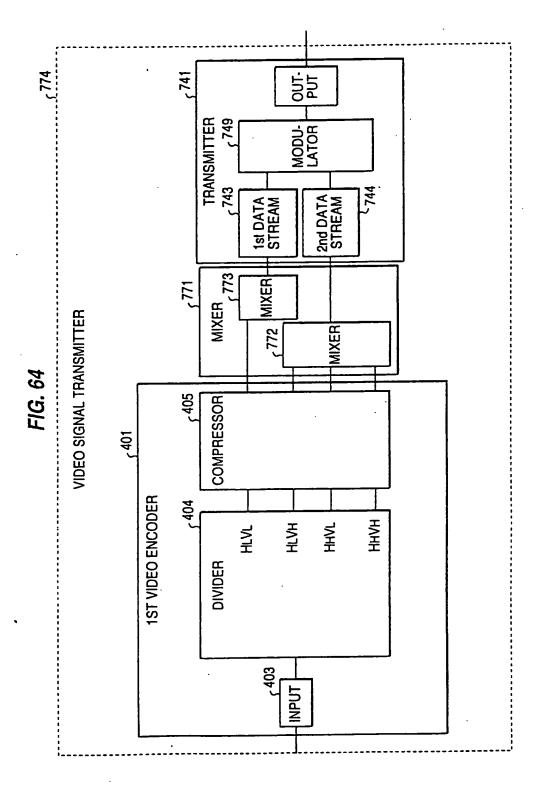


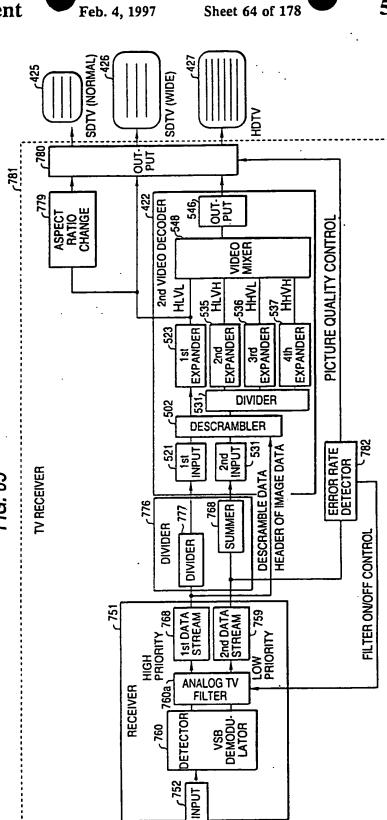


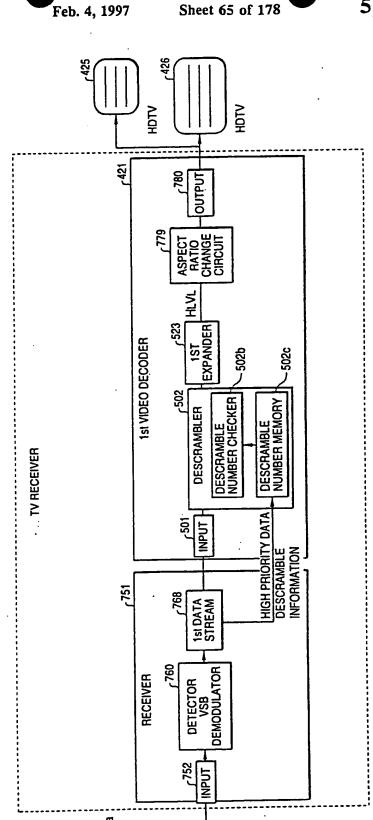




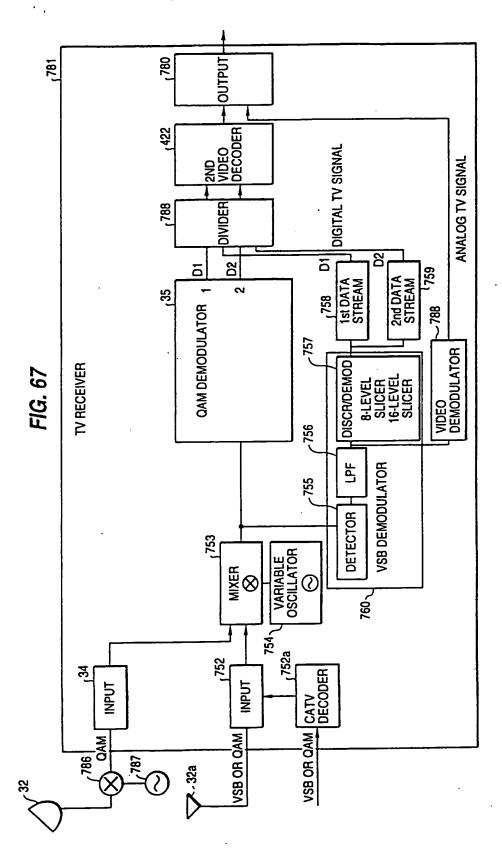


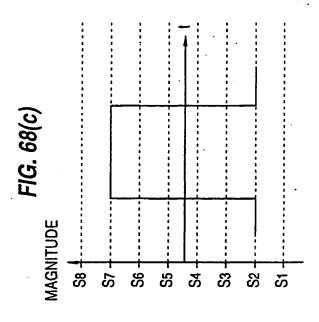


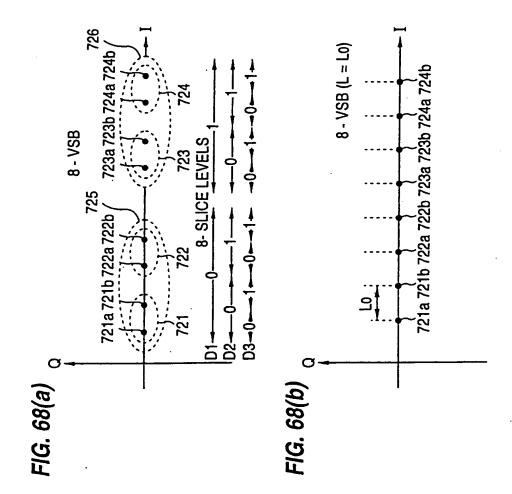


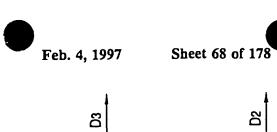


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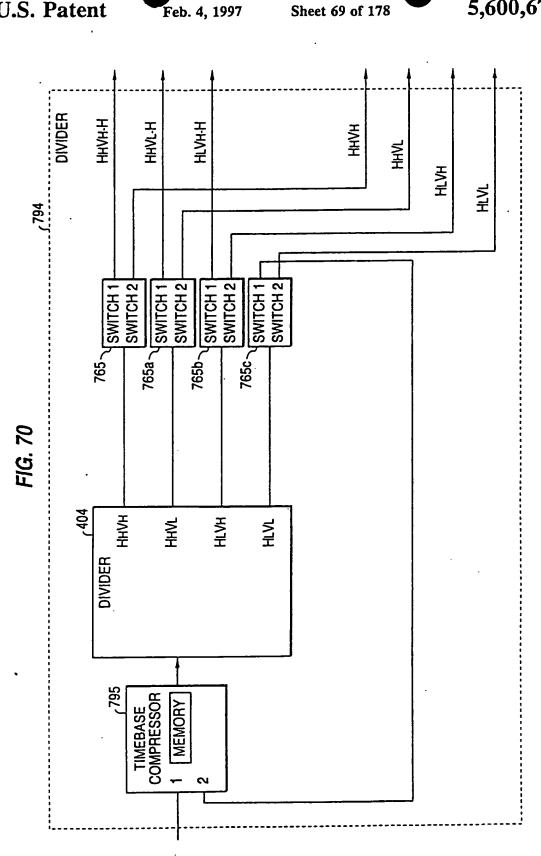


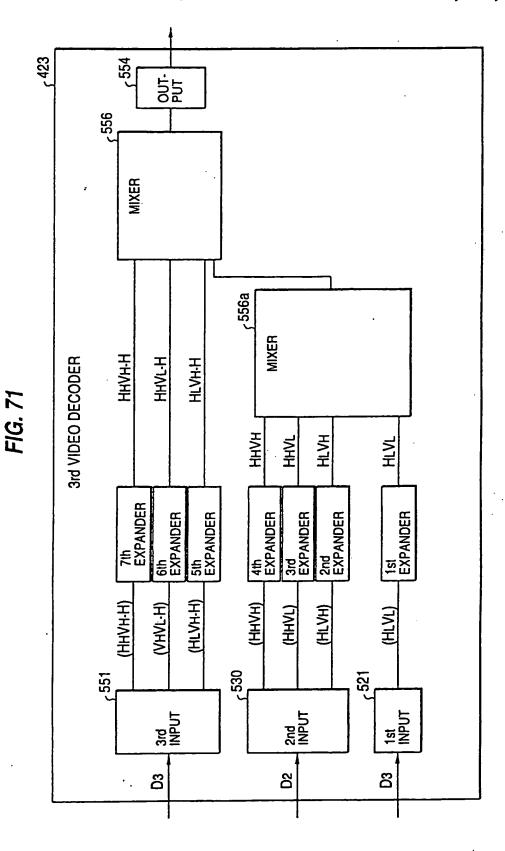






5 2nd OUTPUT 1st OUTPUT COMPRESSOR 3rd COMPRESSOR COMPRESSOR 1st COMPRESSOR 4th COMPRESSOR 6th COMPRESSOR VHVL-H HLVL-H HHVH:H Н∟Ун∙н VHVL-H 1st VIDEO ENCODER DIVIDER HHVH FIG. 69 H\_VH ♦ VHVL 4 H.V. H\_VH-H HAYH VHVL HLVH Ҡ DIVIDER INPUT





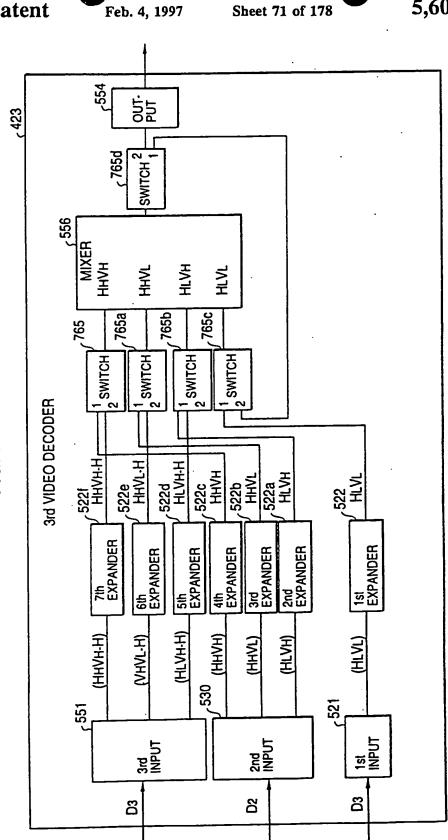
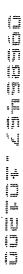
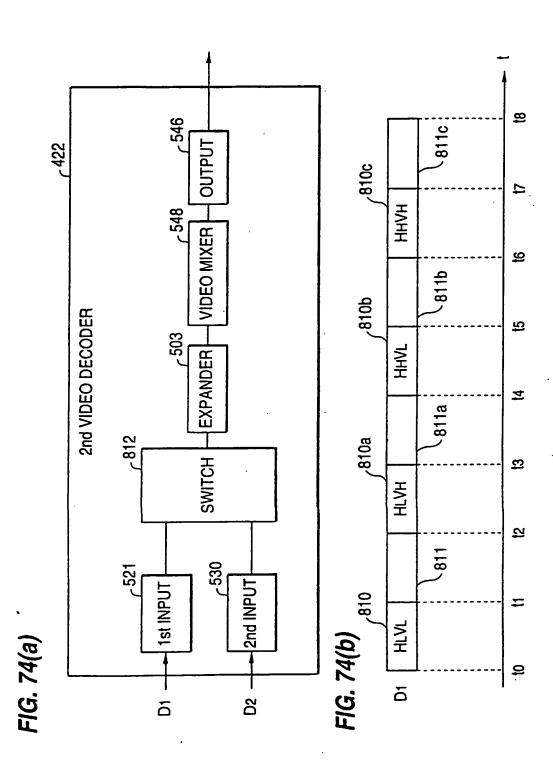


FIG. 73

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	1LVL			Ħ
		LJ	·	¢
		D1 HLVL HHVL HHVL	<del>_</del> <del> </del>	HLVL HLVH HHVL HHVH TIMING 1







| HHVH(2) -822c 821c HHVH(1) HHVL(2) -822b 821b HHVL(1) FIG. 75 **Н**LVH(2) -822a -821a HLVH(1) HLVL(2) -822 HLVL(1) **D**5 5

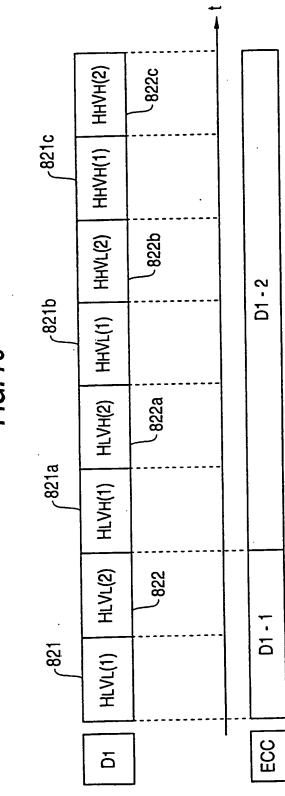


FIG. 76

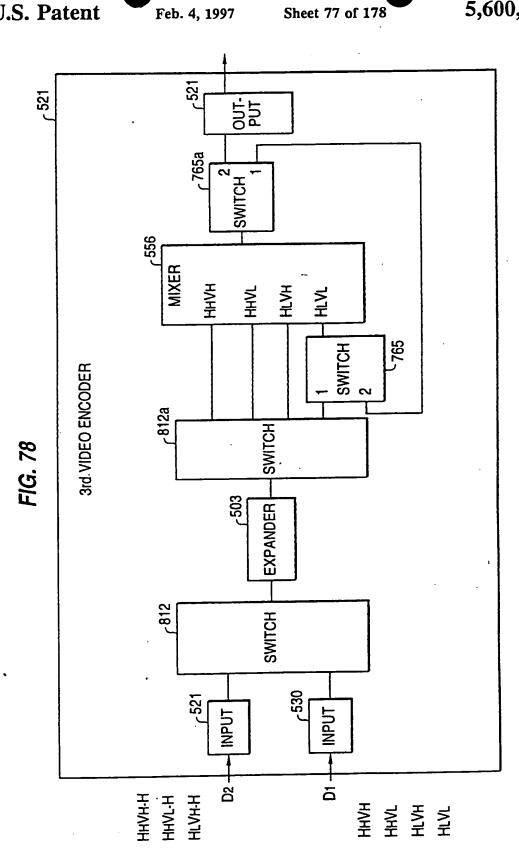
5,600,672 U.S. Patent Feb. 4, 1997 Sheet 76 of 178 34 132 HP/H-H (2) -88 8 823b **128** H### (1) 921 24 ИН∕\.Н (2) **7**2 ន H-M-H (1) **£** - 2 # H\_\H. (2) ₹ 823 **2** . ₹(2) H-XH-H (1) 유 ₽ 822 822a 821b ) 821c ) 9 ₹ . 821a ,

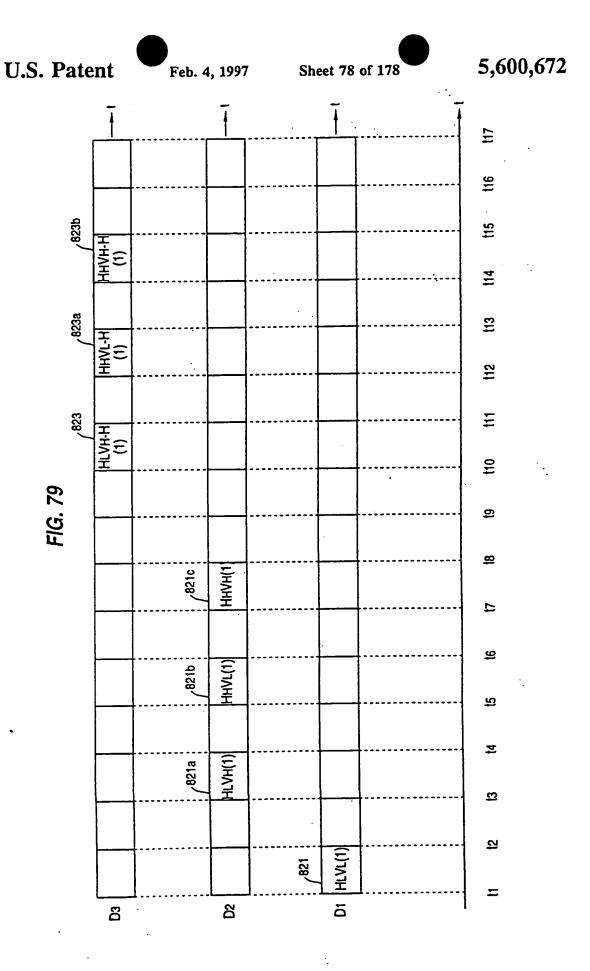
20

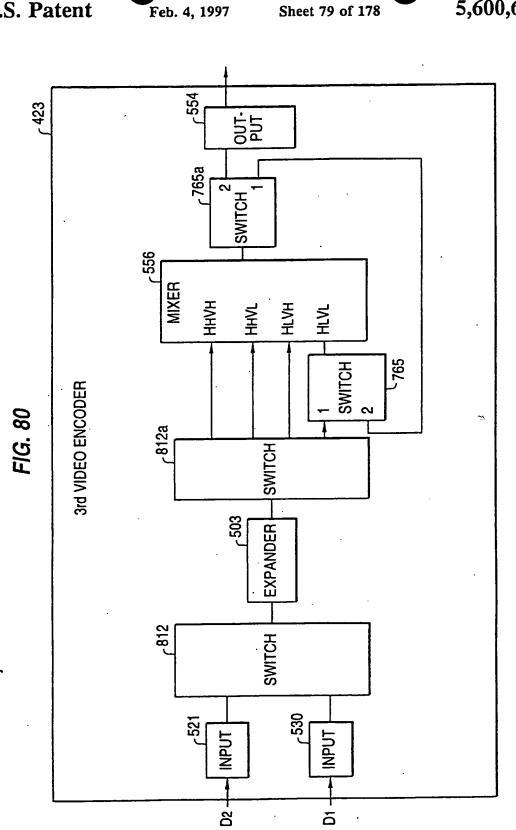
5

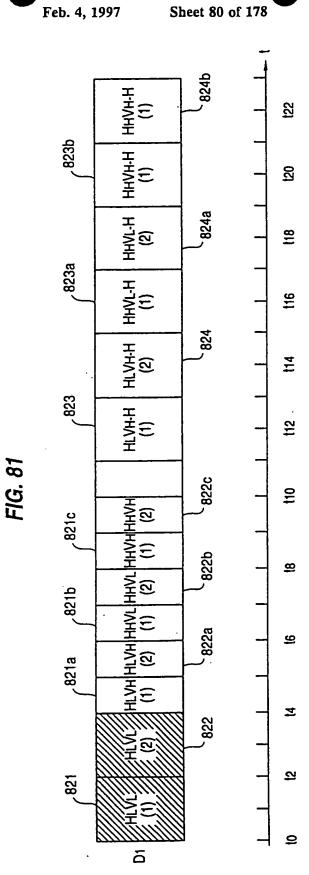
2

2









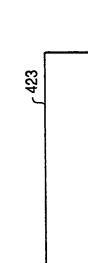
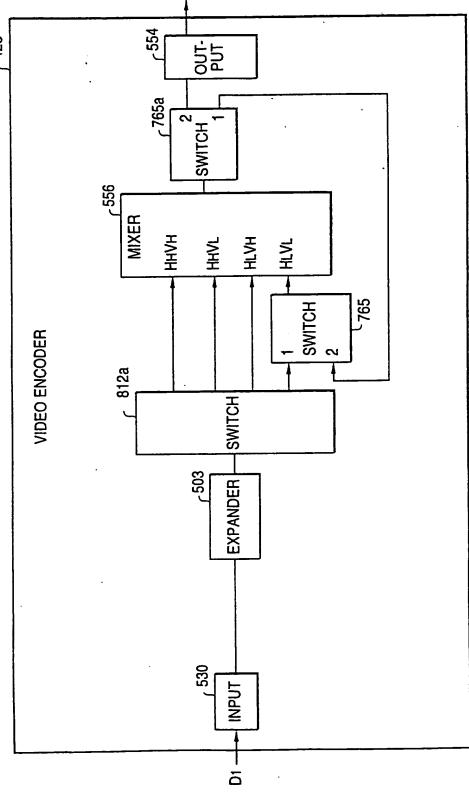
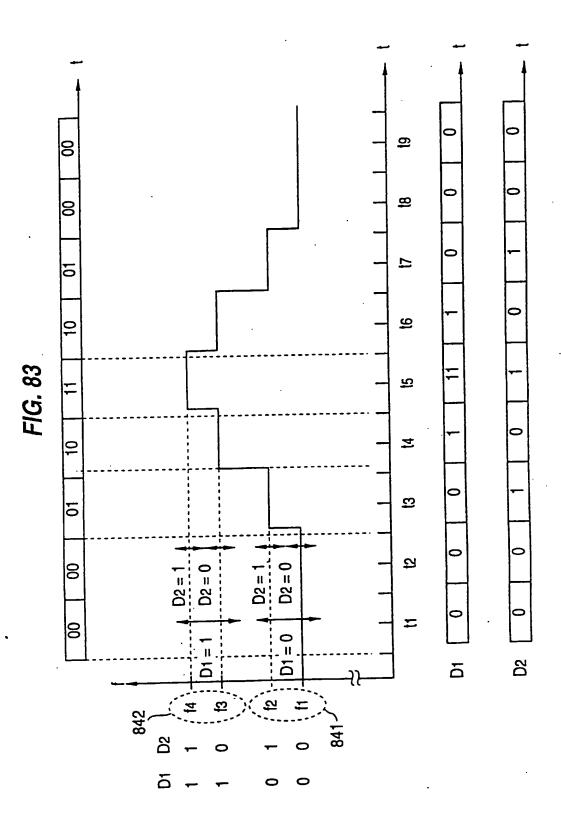
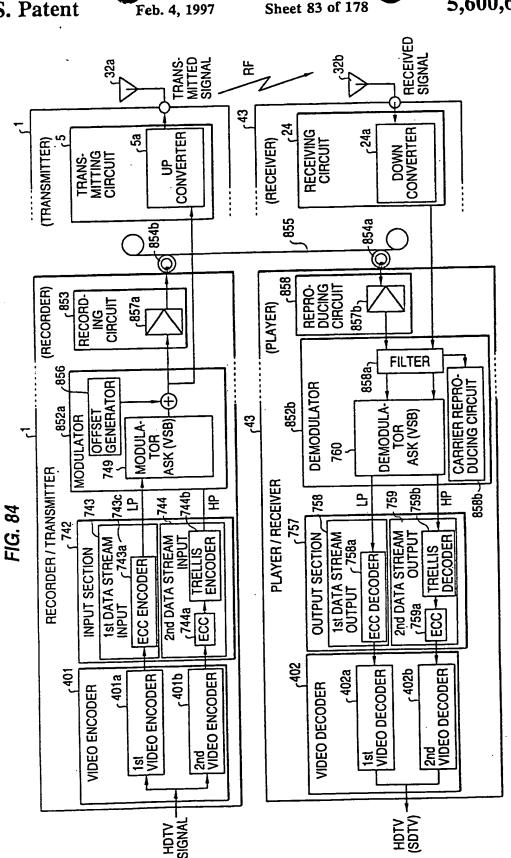
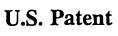


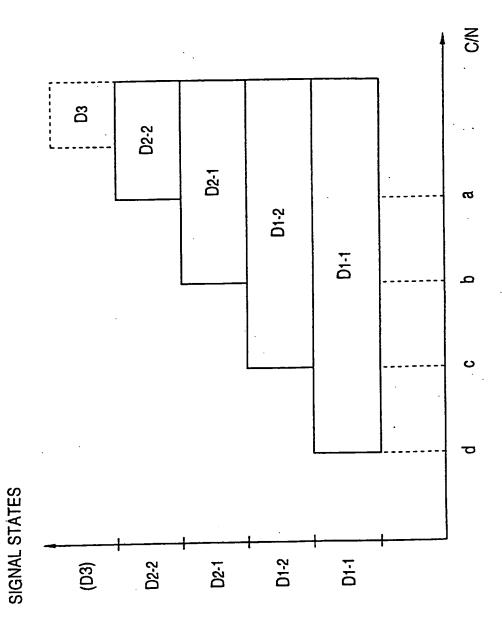
FIG. 82

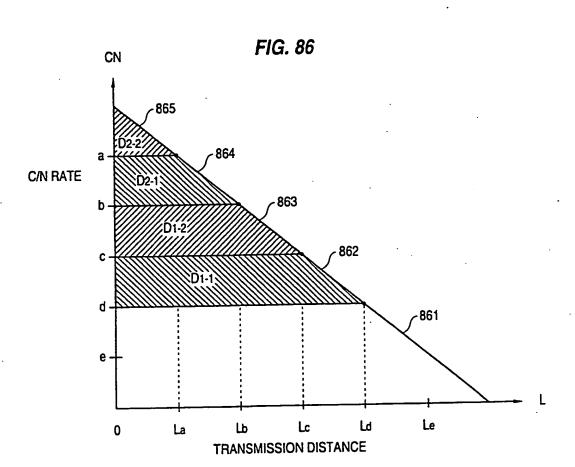


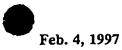


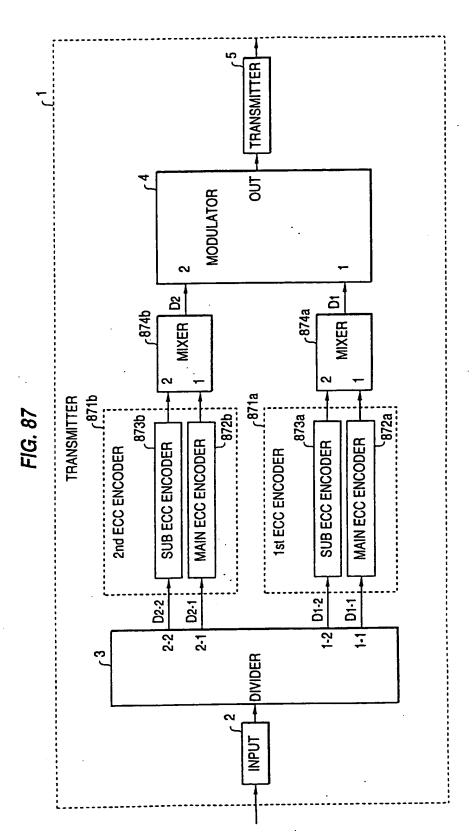












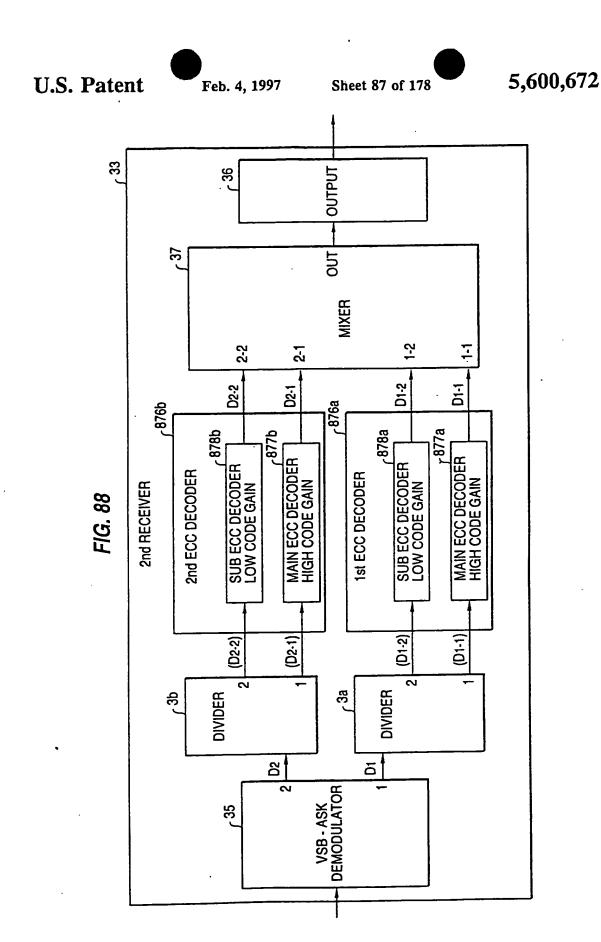
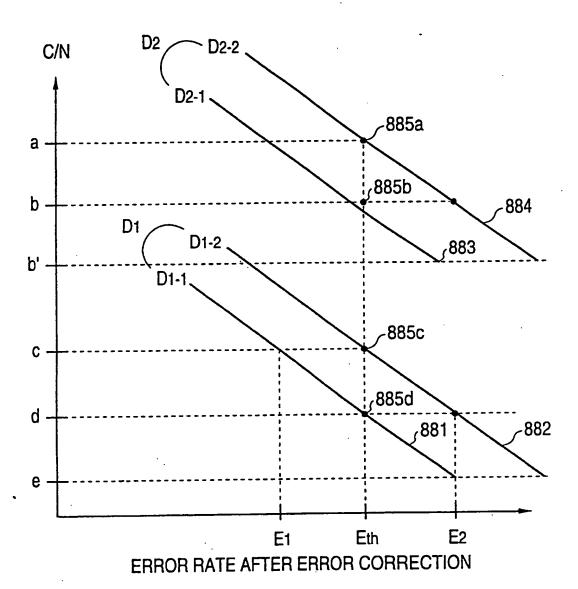
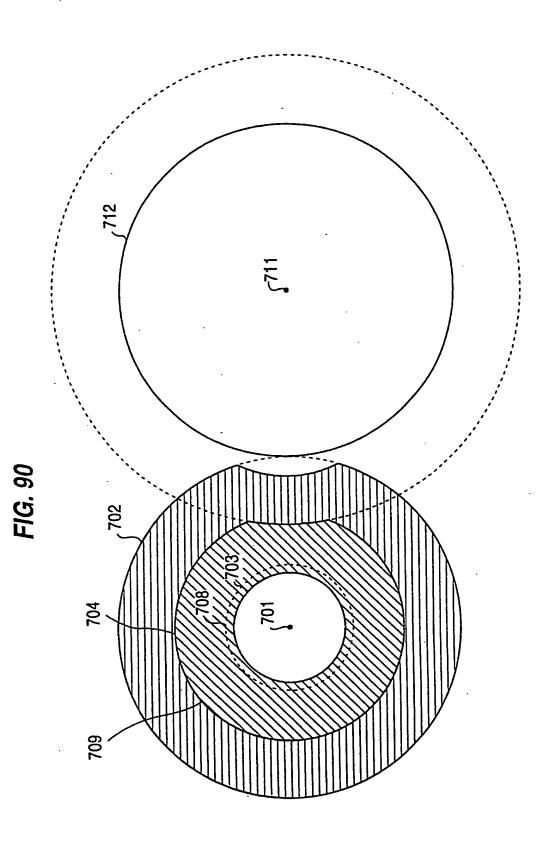
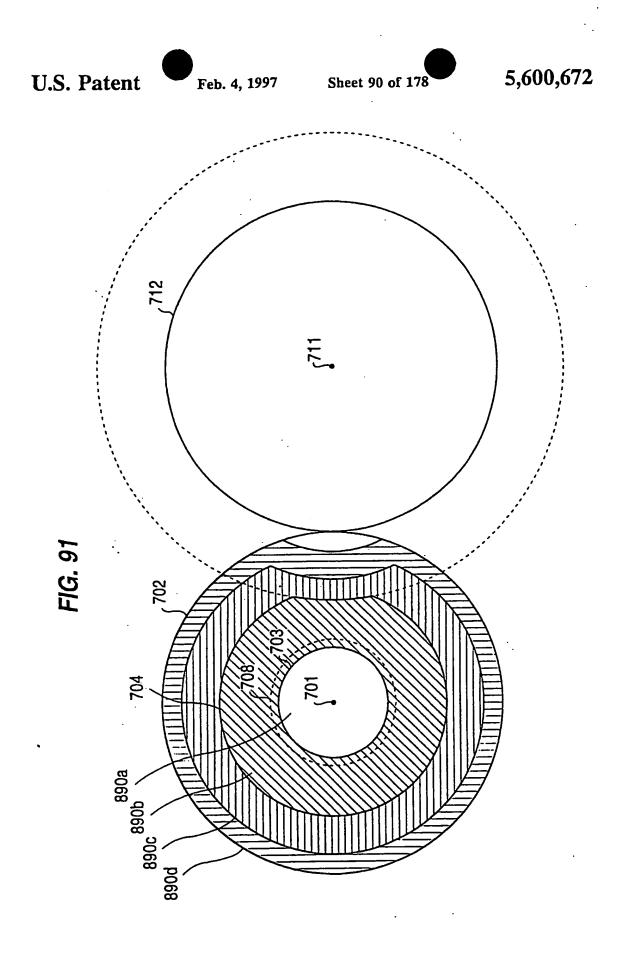


FIG. 89



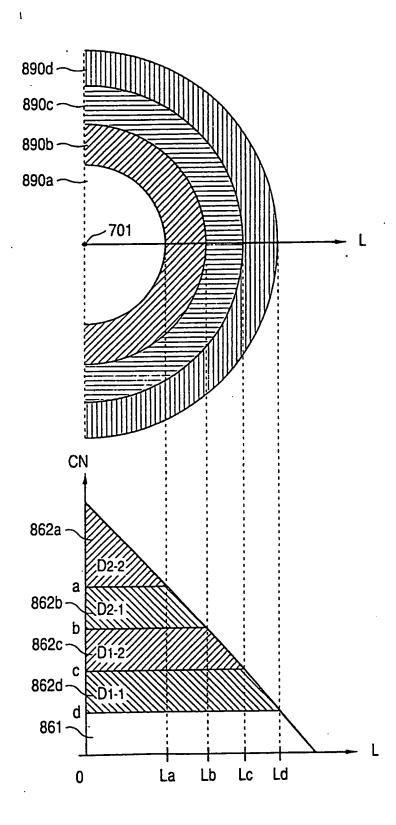


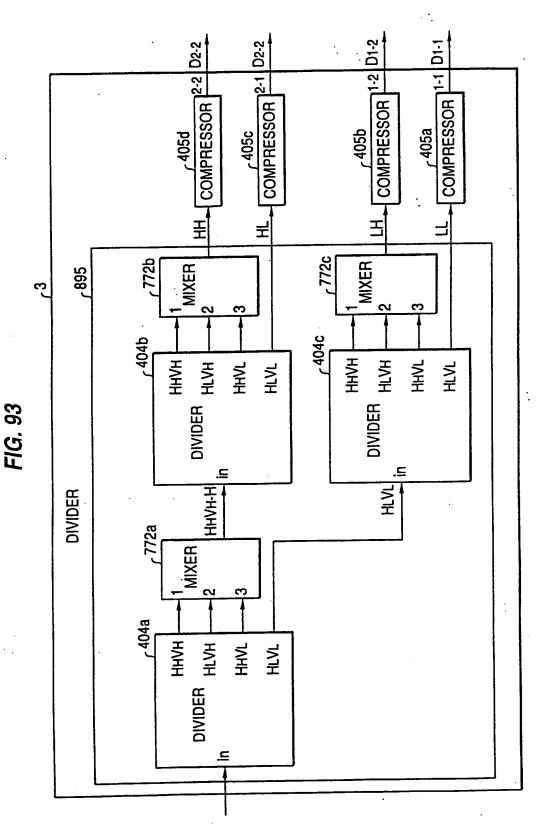


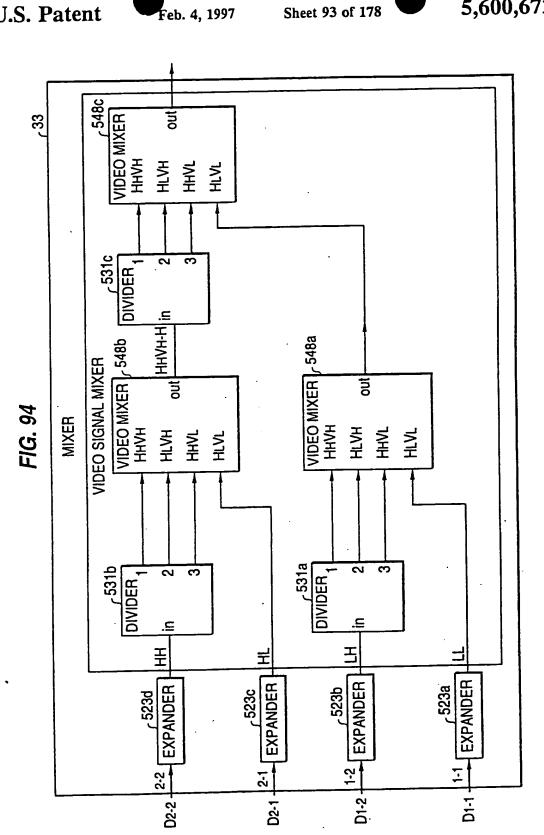


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FIG. 92

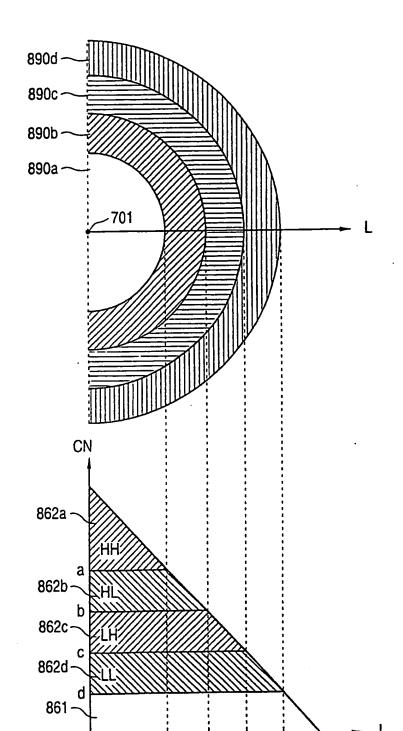






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FIG. 95



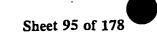
La

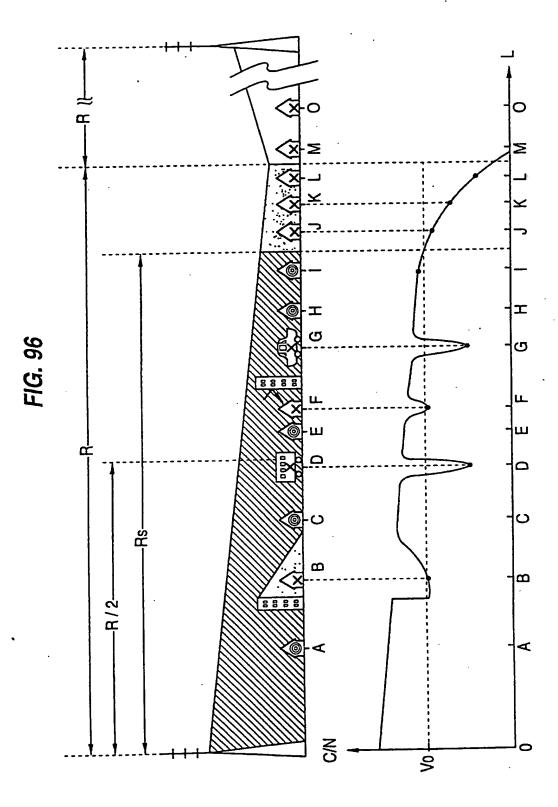
0

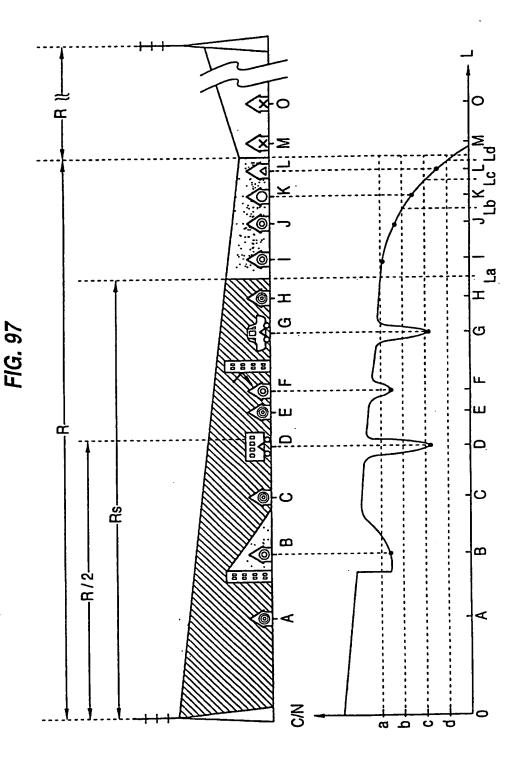
Lb

Ld

Lc

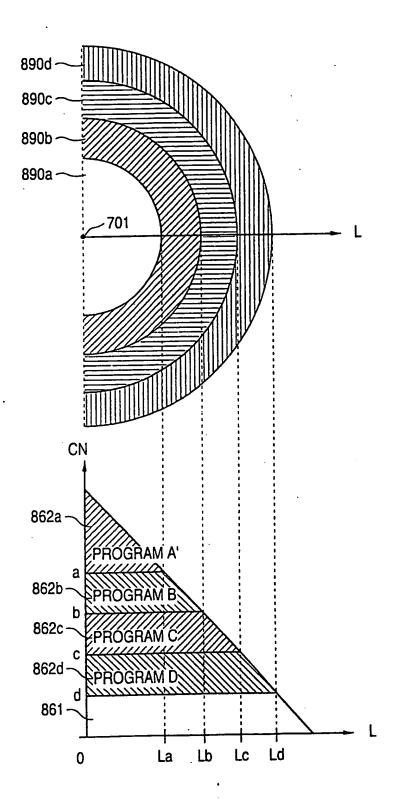


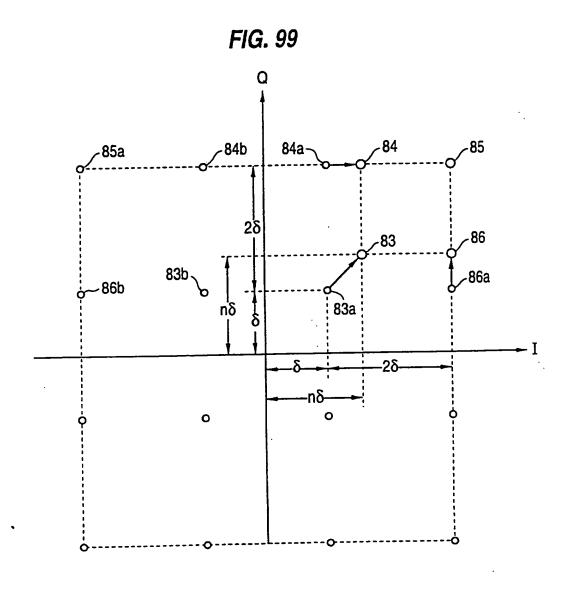




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FIG. 98





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FIG. 100

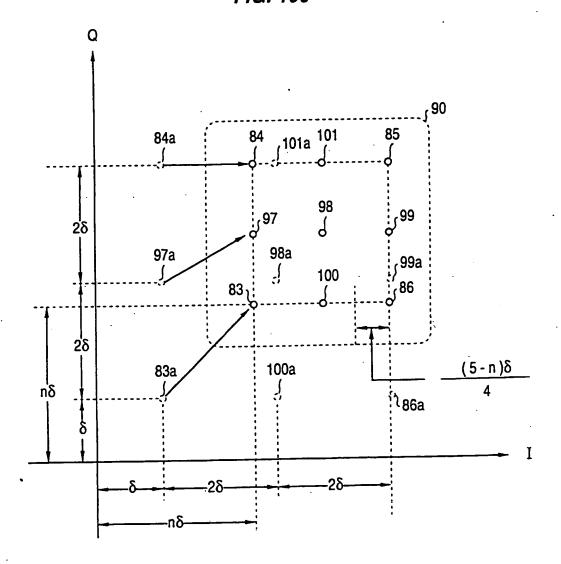
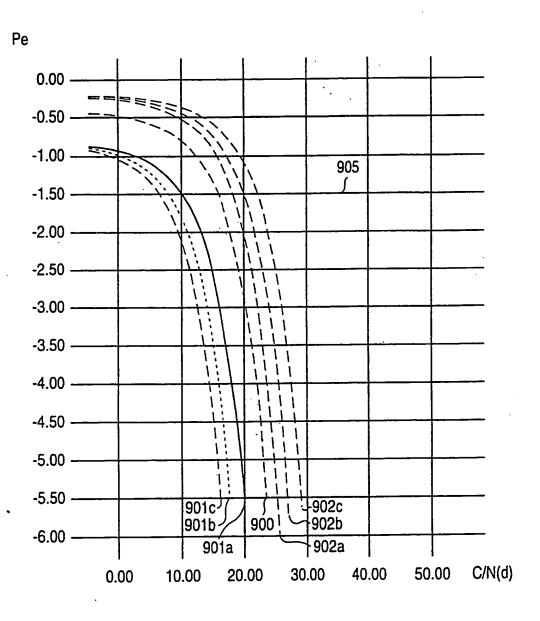


FIG. 101



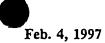


FIG. 102

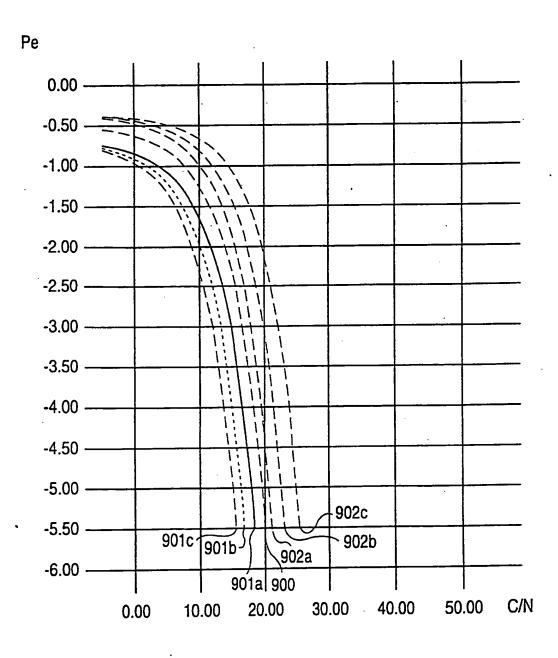
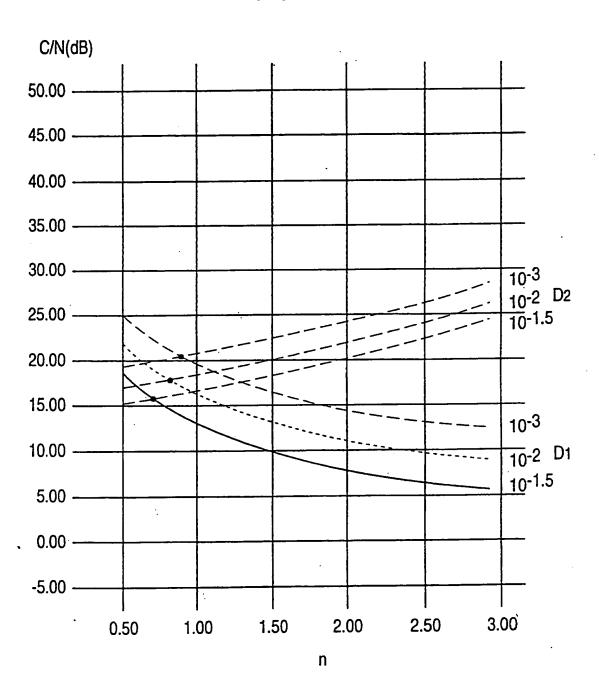


FIG. 103



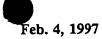
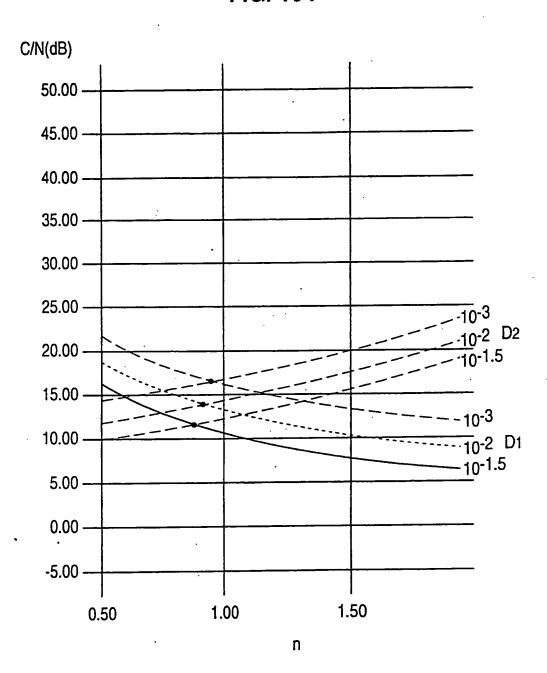
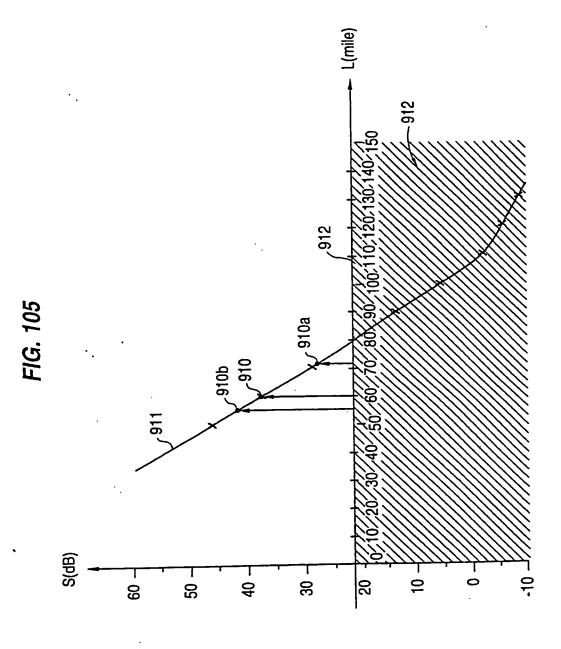
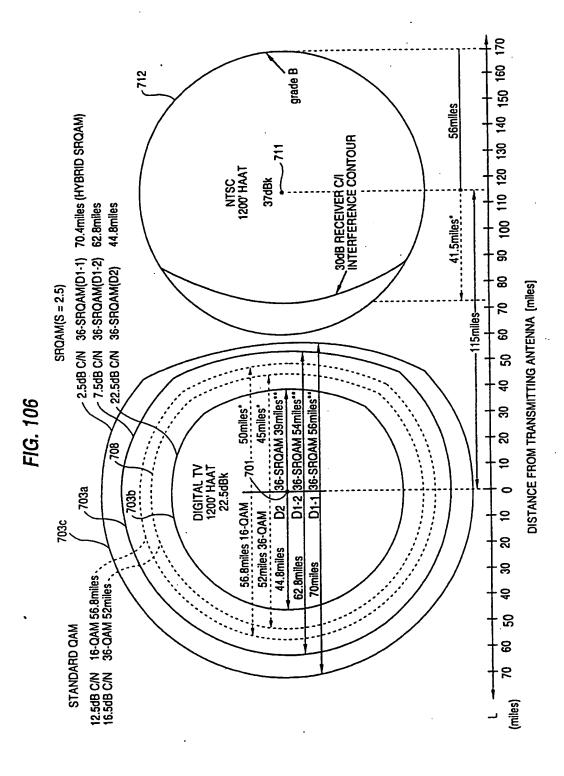


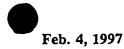
FIG. 104



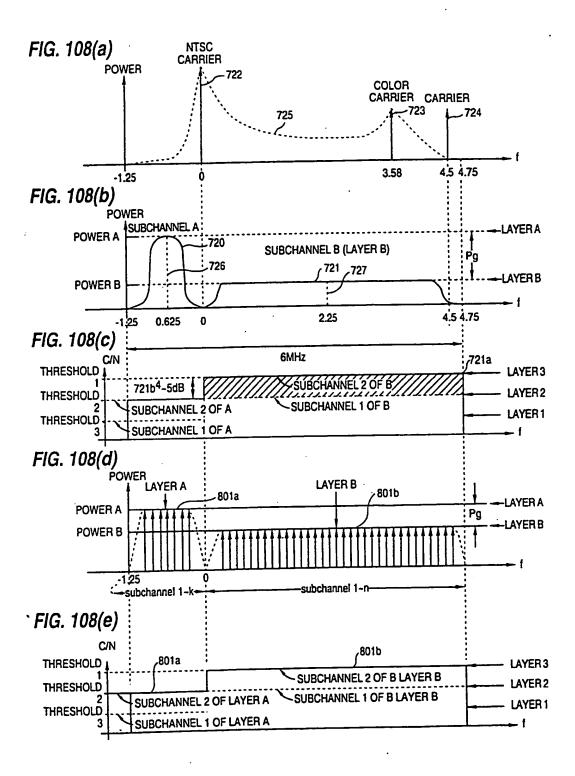


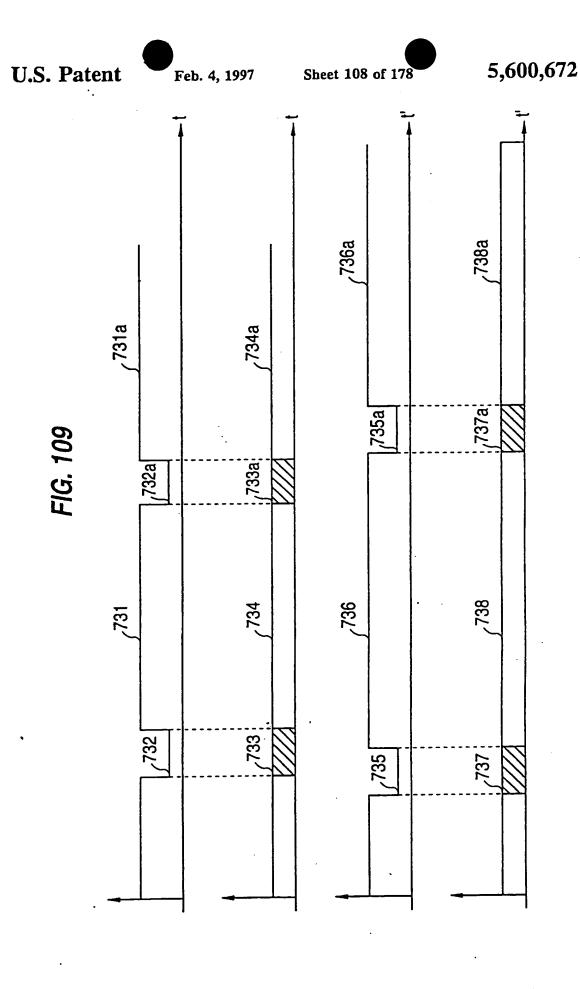




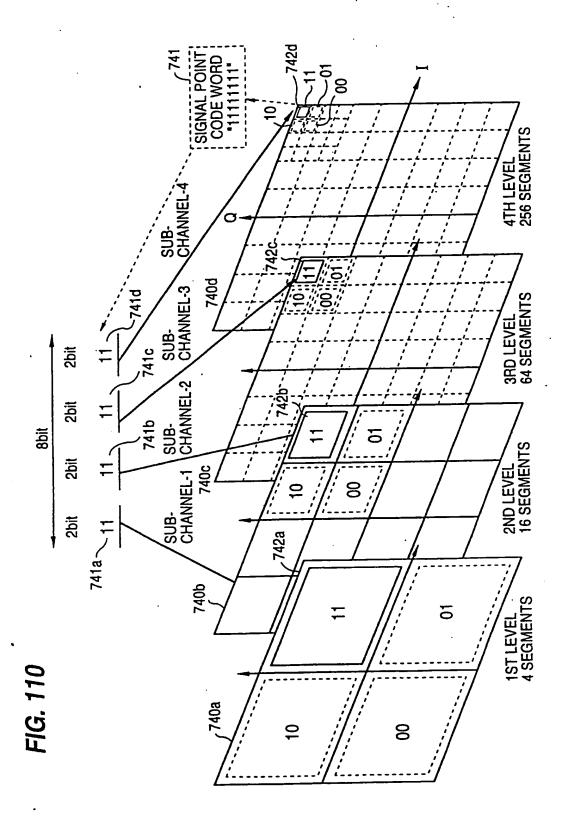


grade B \*\* APPROXIMATELY CALCULATED 56miles 65.8miles (HYBRID SROAM) 30dB RECEIVER C/I INTERFERENCE CONTOUR NTSC 1200' HAAT 37dBk 47.8miles 59.8miles 41.5miles 36-SRQAM(D1-1) 36-SRQAM(D1-2) 20dB C/N 36-SRQAM(D2) SRQAM(S1 = 1.8) DISTANCE FROM TRANSMITTING ANTENNA [miles] 5dB C/N 10dB C/N 36-SROAM 42miles\* 36-SROAM 53miles\* 36-SRQAM 56miles 45miles\* DIGITAL TV 1200' HAAT 22.5dBk 703a 01-2 56.8miles 16-QAM 22 52miles 36-QAM 7030 47.8miles 65.8miles 59.8miles 16-OAM 56.8miles. 36-QAM 52miles. STANDARD QAM 12.5dB C/N 16.5dB C/N









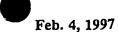


FIG. 111

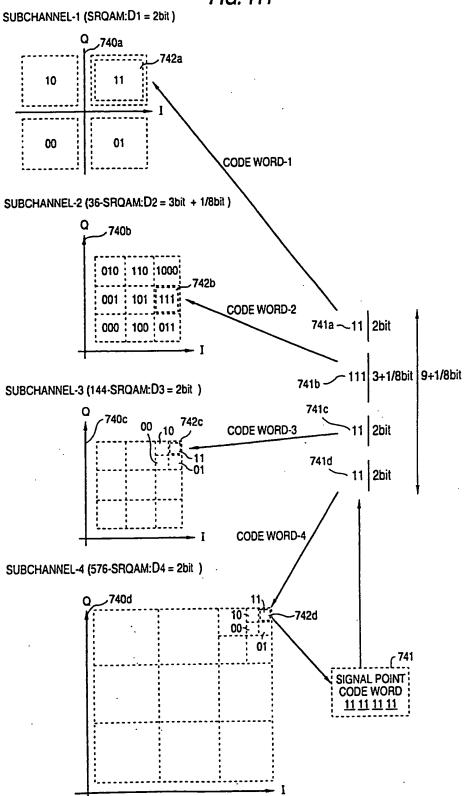
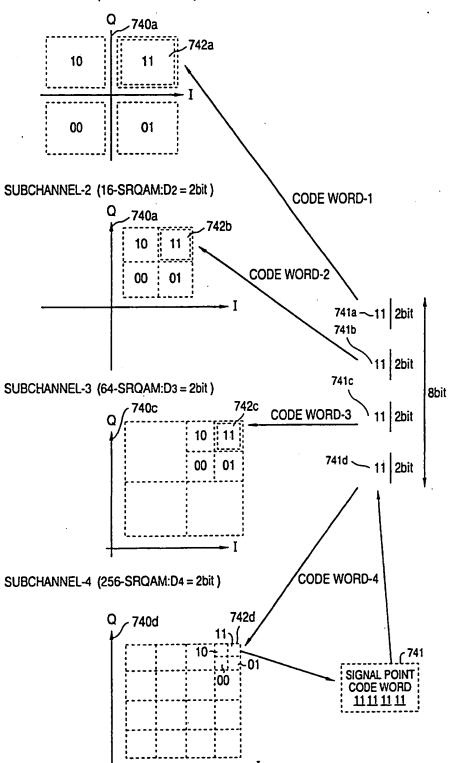
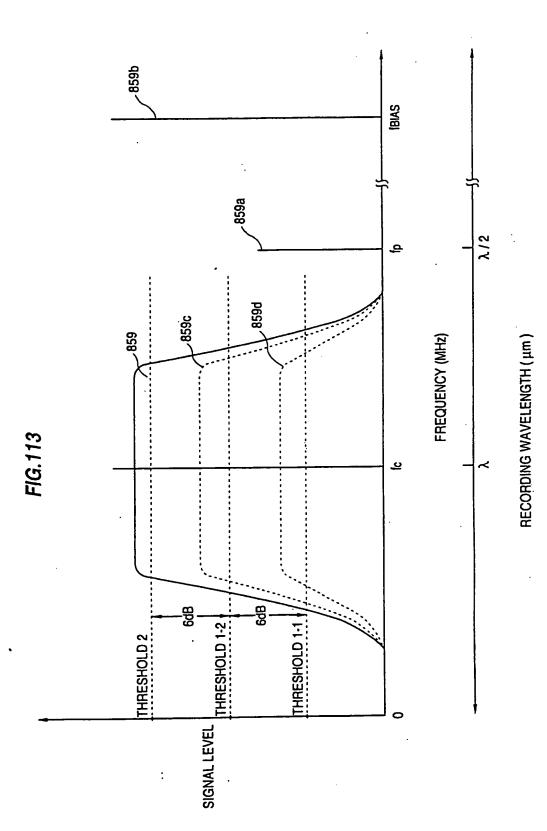
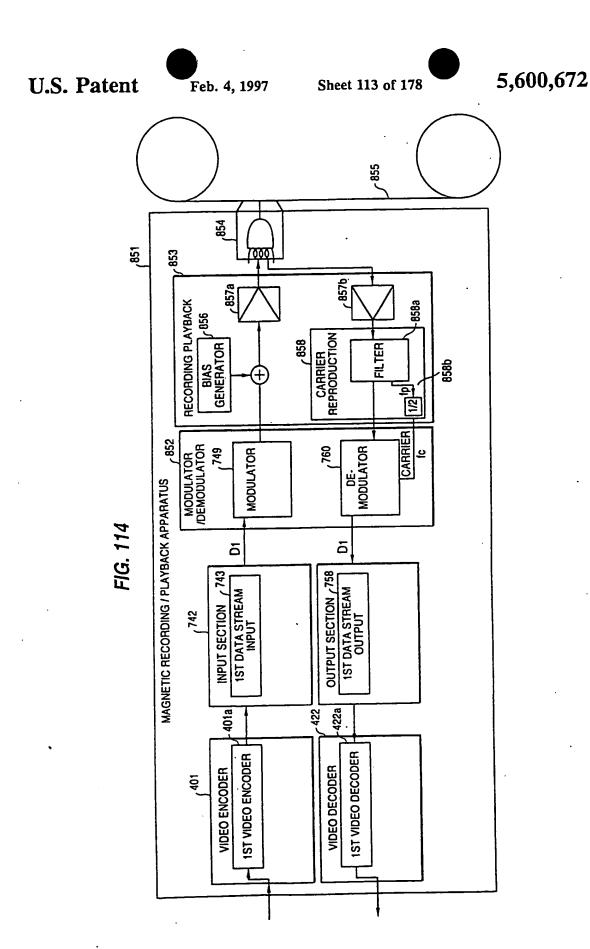


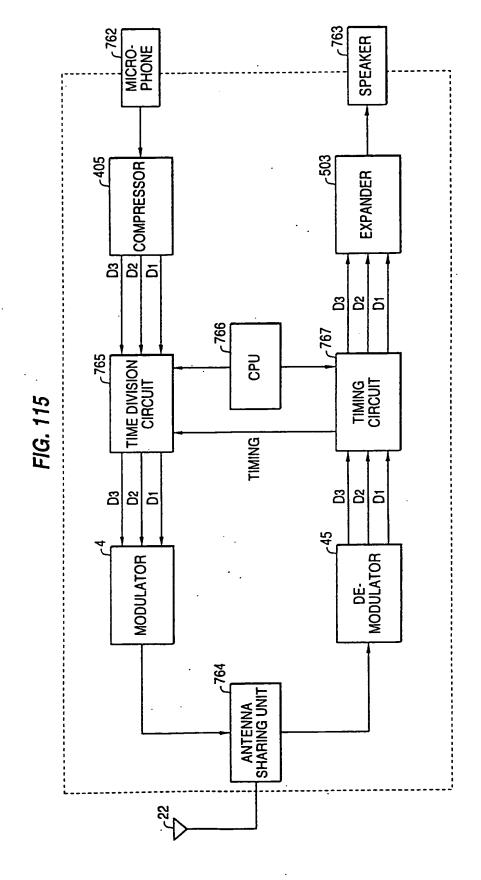
FIG. 112

SUBCHANNEL-1 (SRQAM:D1 = 2bit)

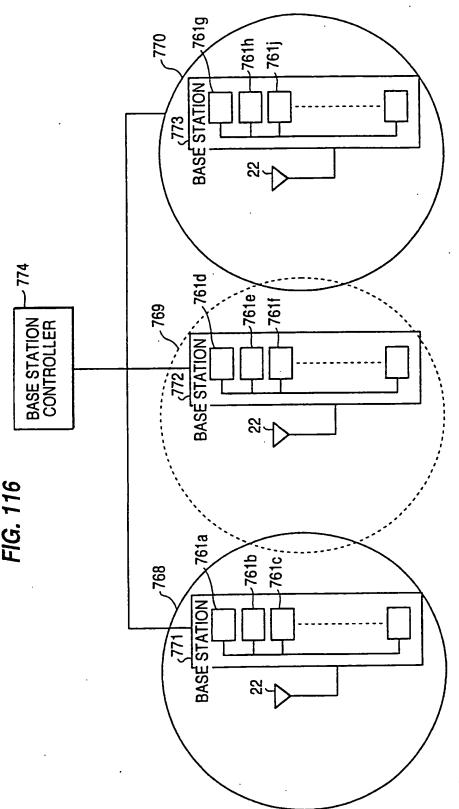


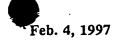


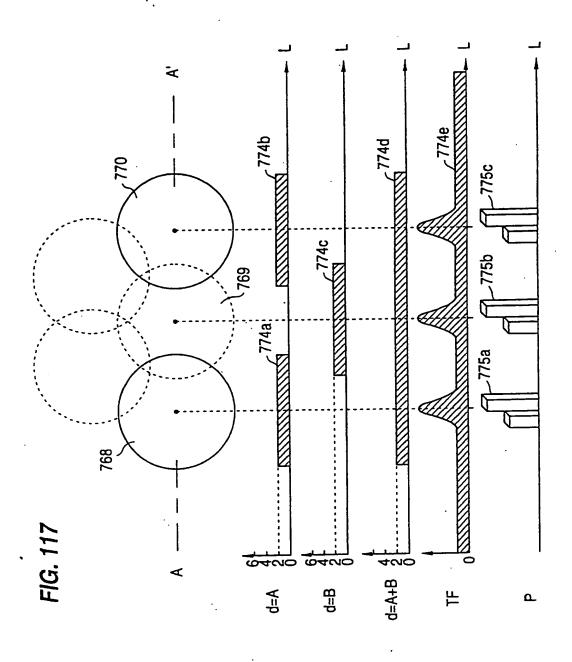


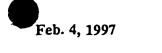


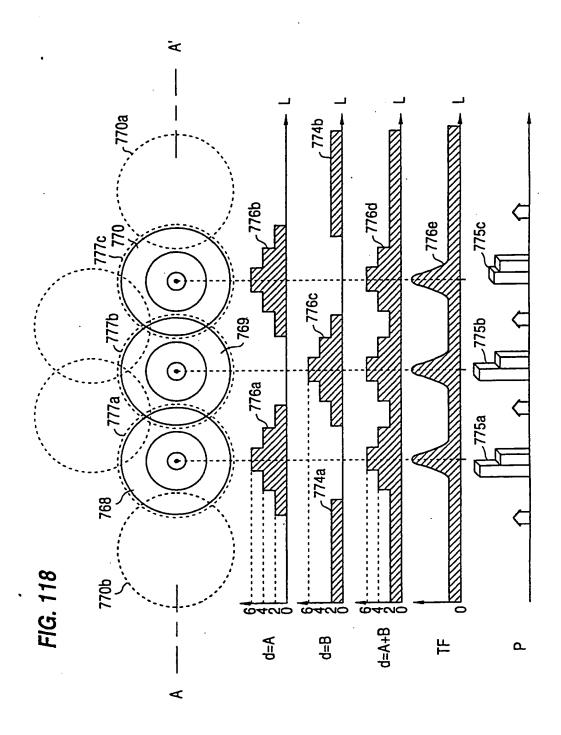
U.S. Patent Feb. 4, 1997 Sheet 115 of 178 5,600,672

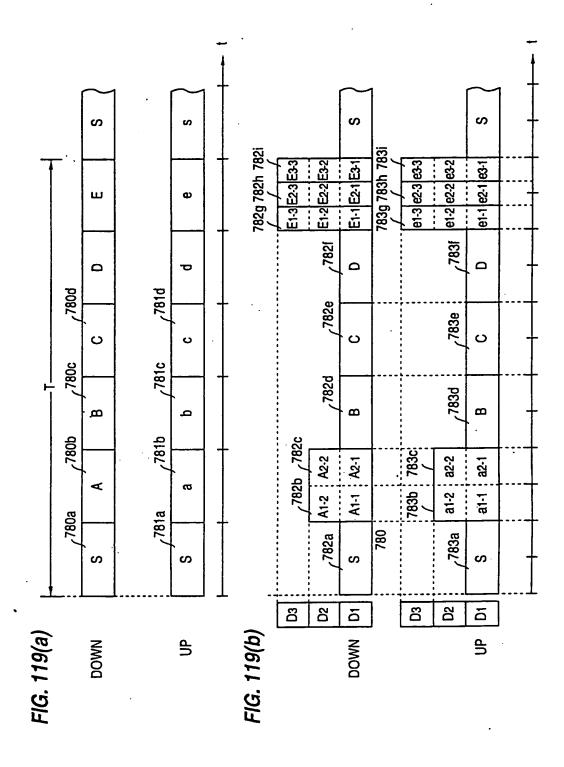


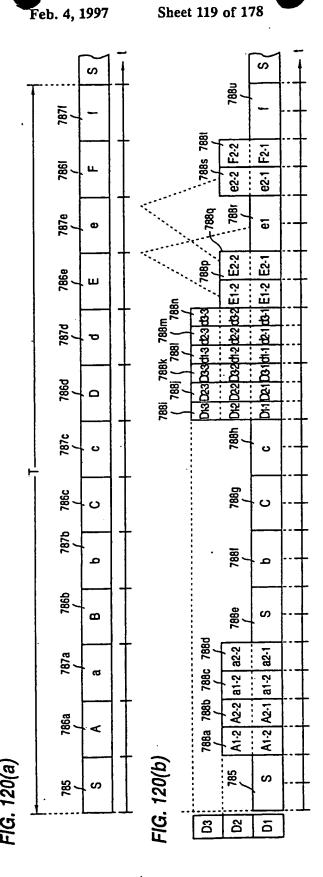




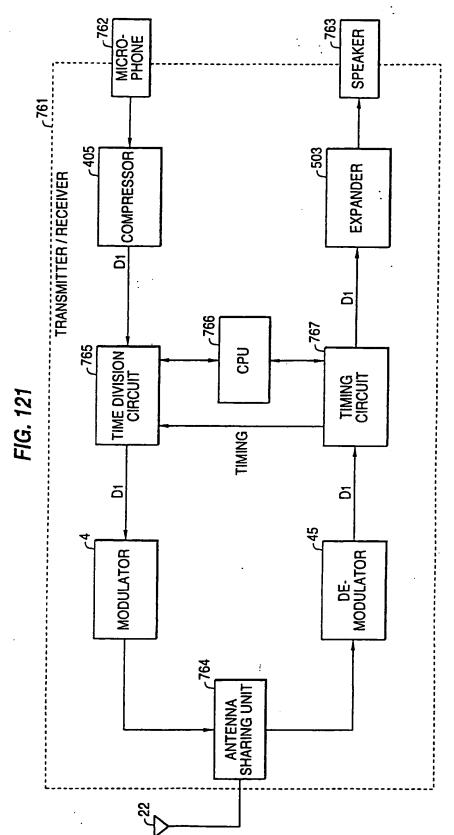




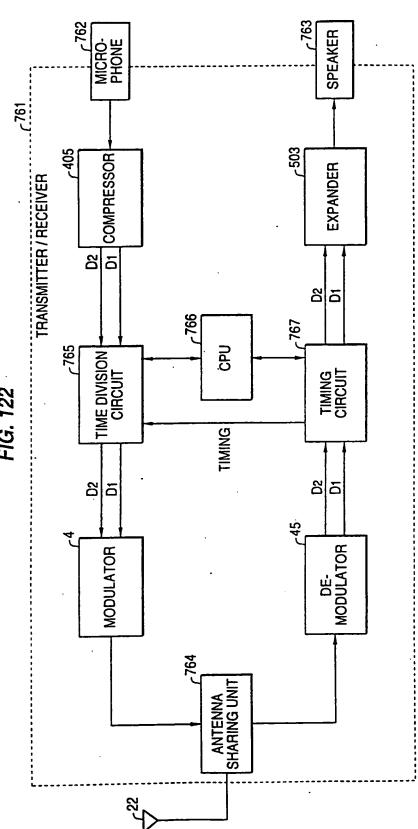


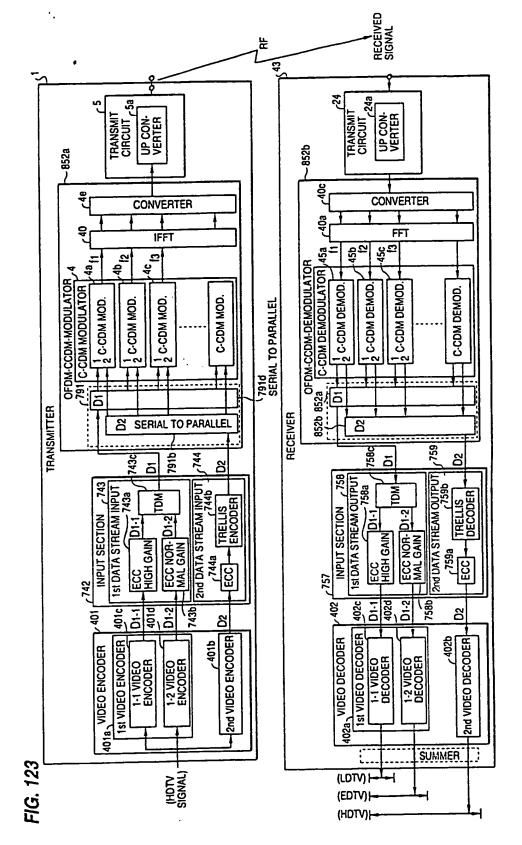


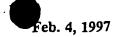
U.S. Patent Feb. 4, 1997 Sheet 120 of 178 5,600,672

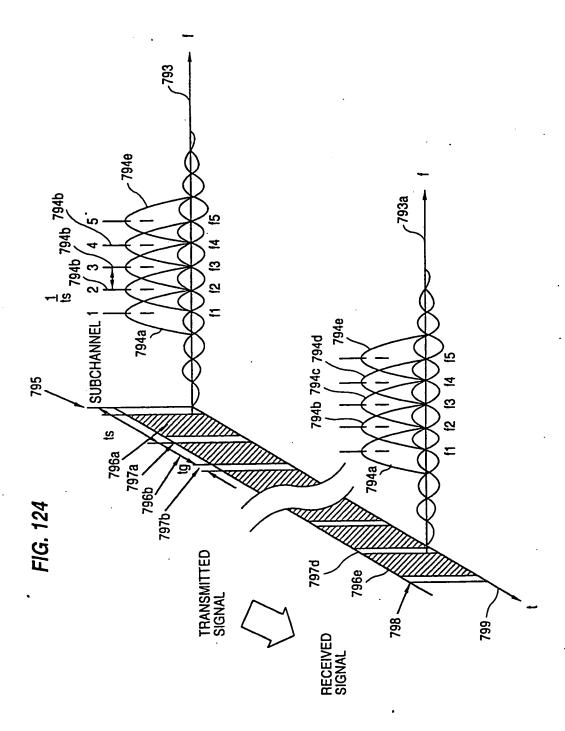


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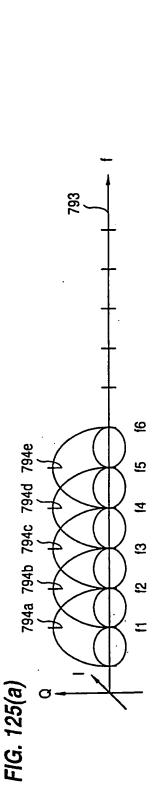


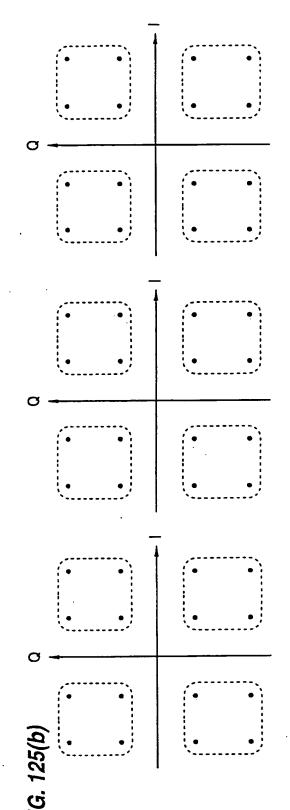


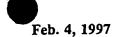


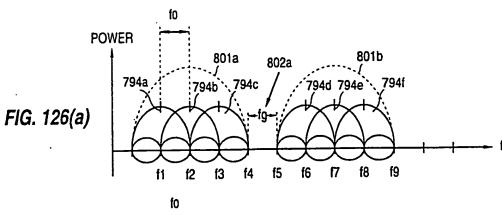


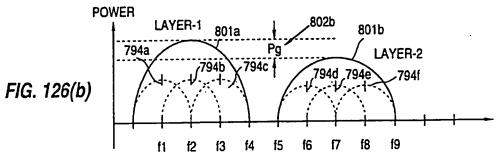
Late and the test of the second

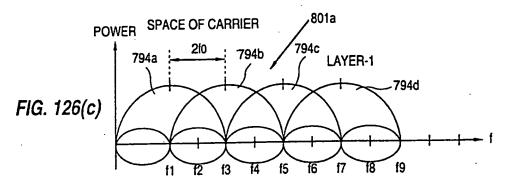


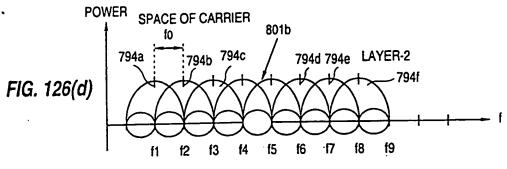












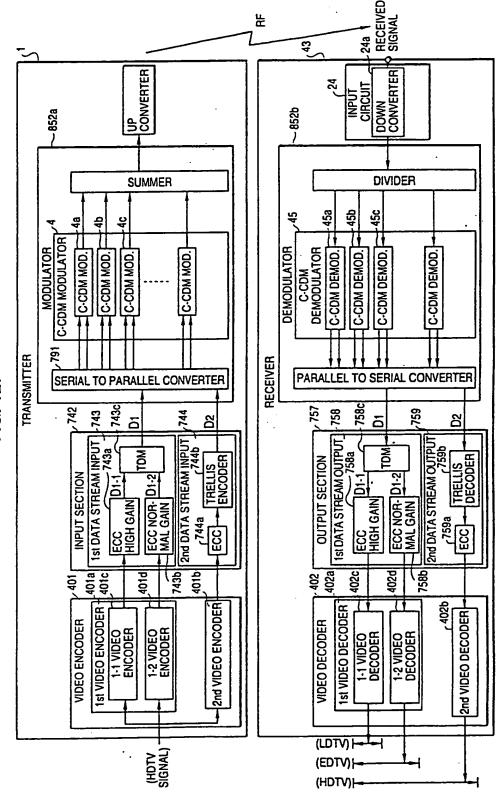


FIG. 127



FIG. 128(a)

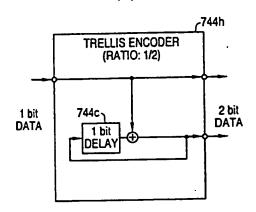


FIG. 128(d)

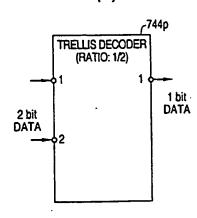


FIG. 128(b)

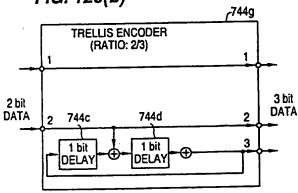


FIG. 128(e)

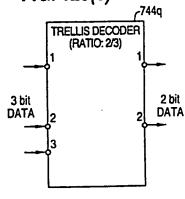


FIG. 128(c)

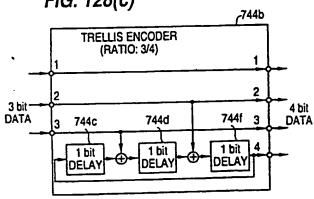
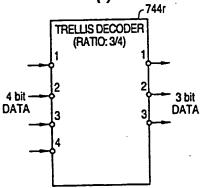
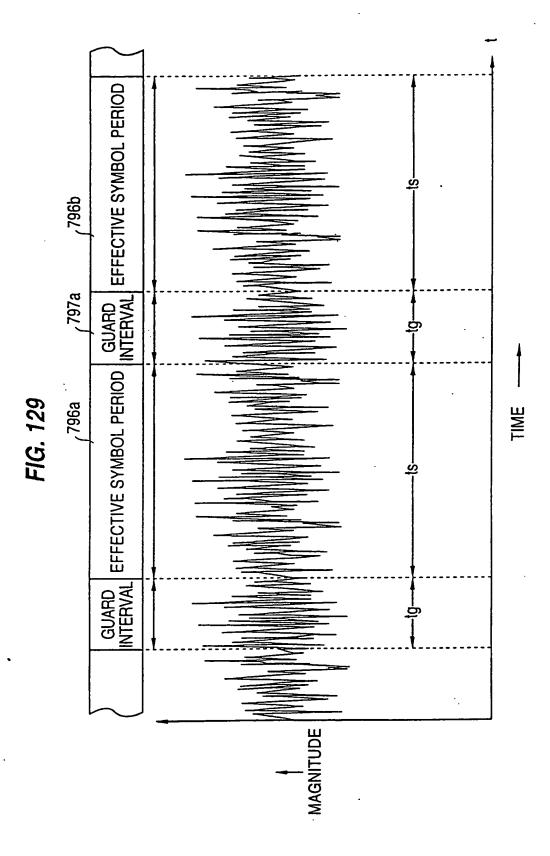
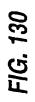


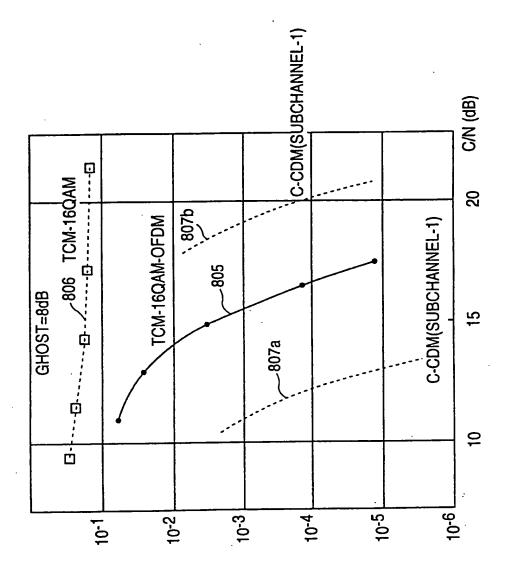
FIG. 128(f)





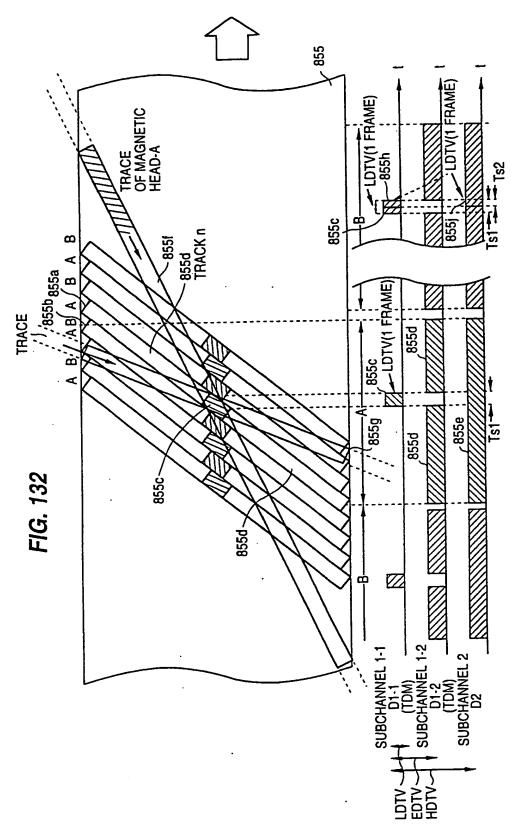


L. H. H. H. C. H. H. H. H.



E.H. L.B. C.M. B. U.J. B.

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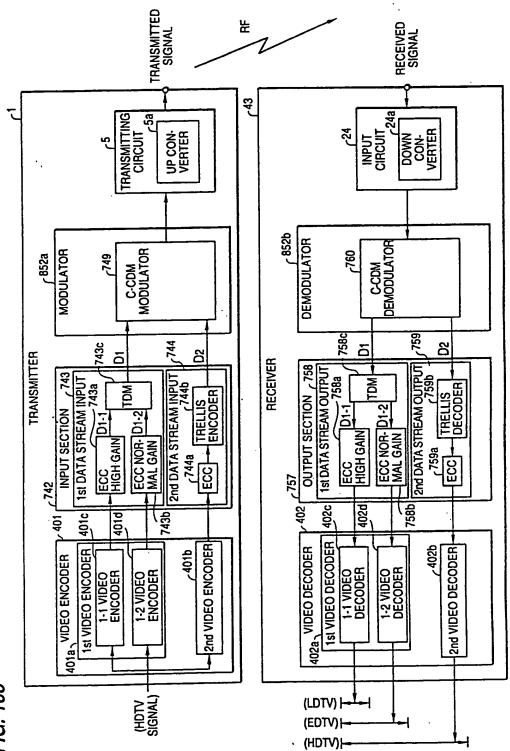
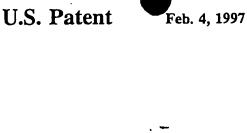
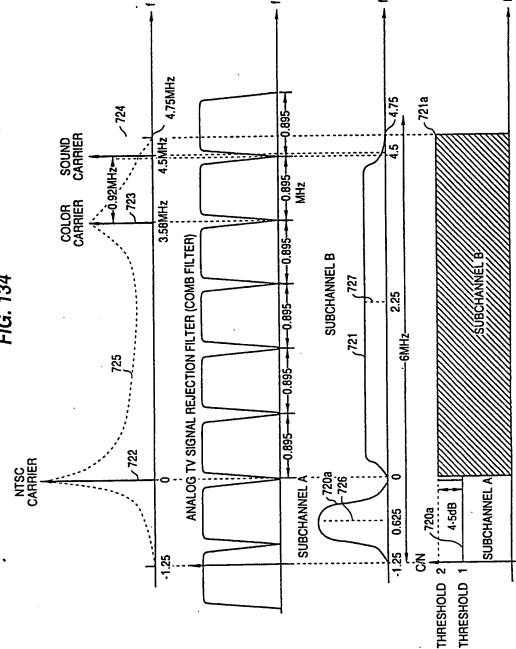


FIG. 133





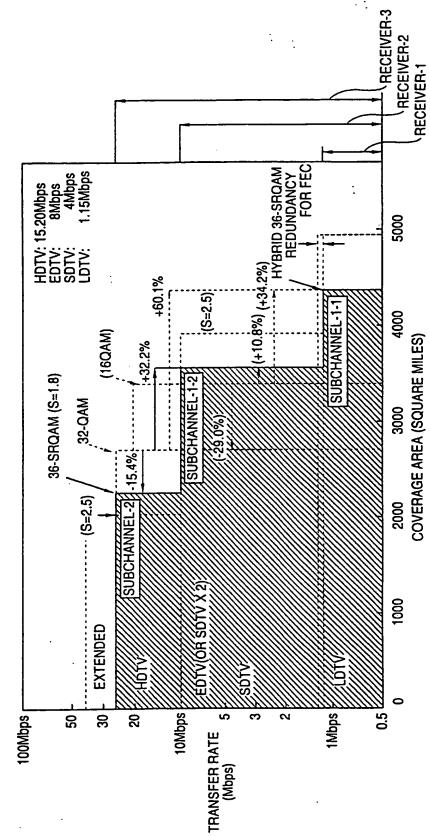
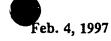
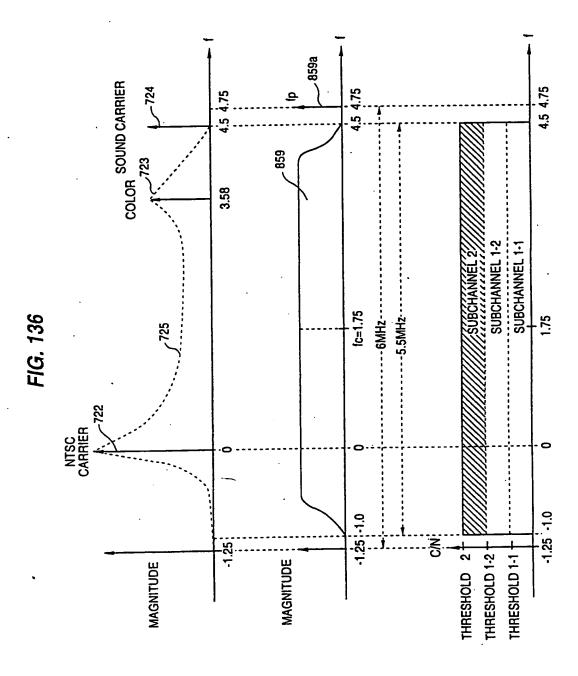
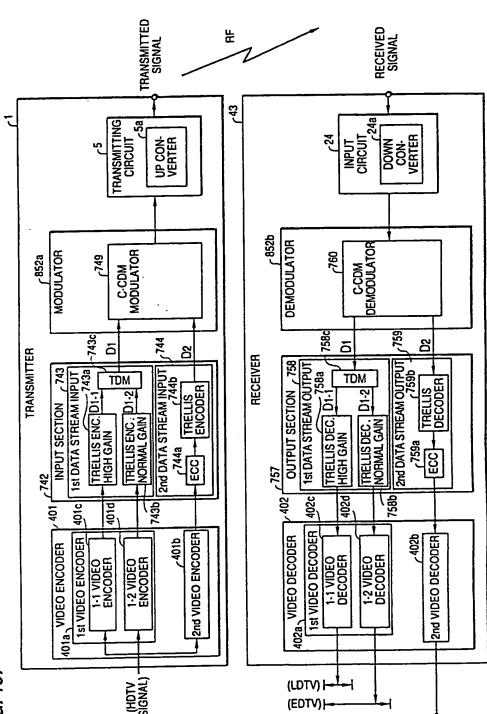


FIG. 135







(HDTV)

FIG. 137

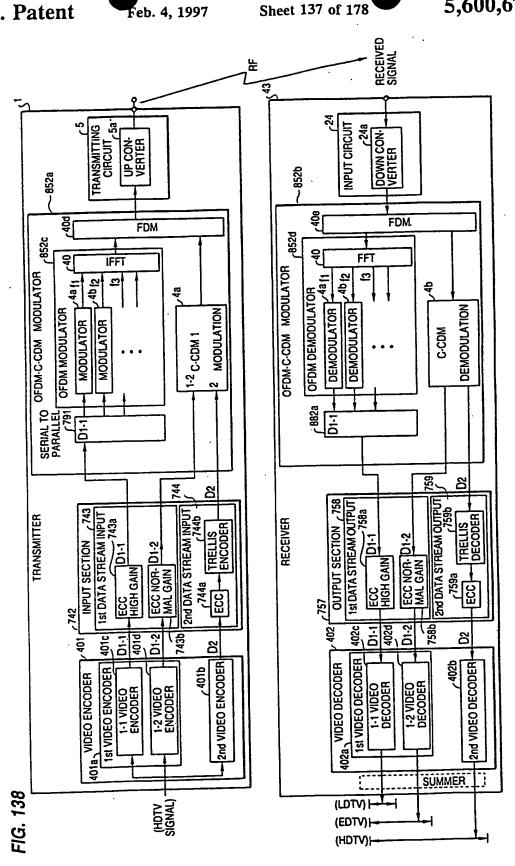


FIG. 139

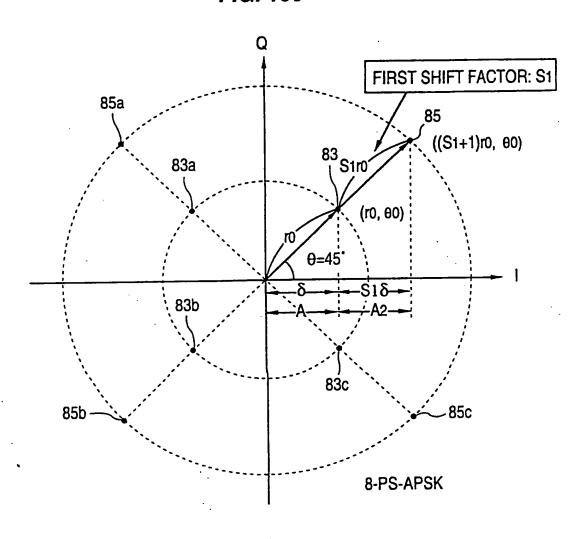


FIG. 140

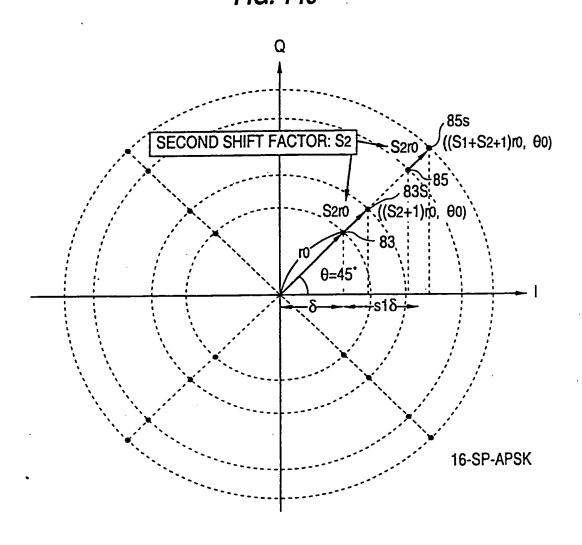
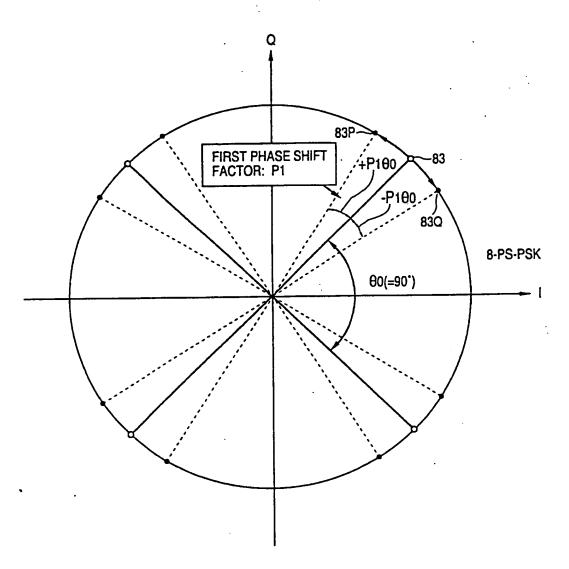
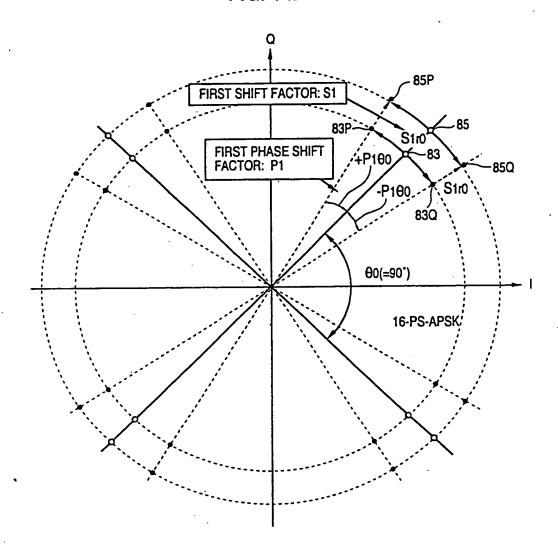


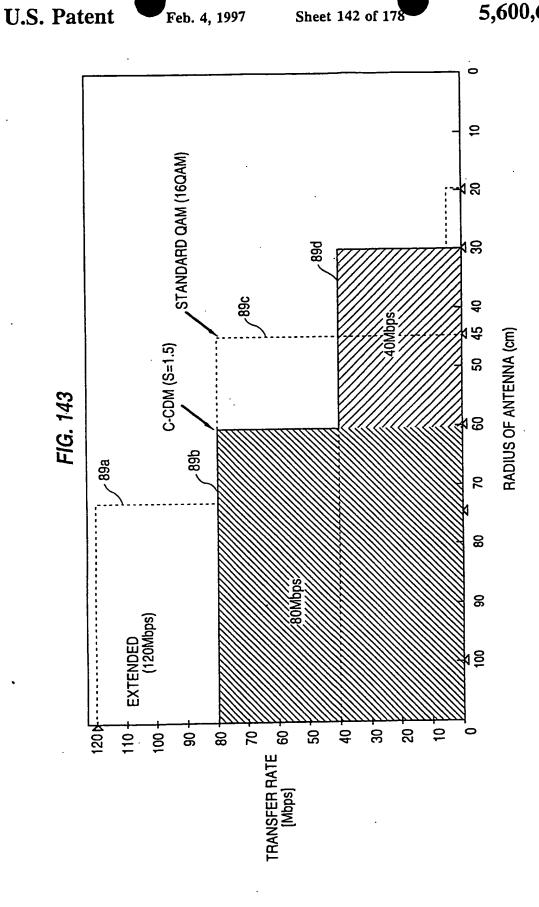
FIG. 141

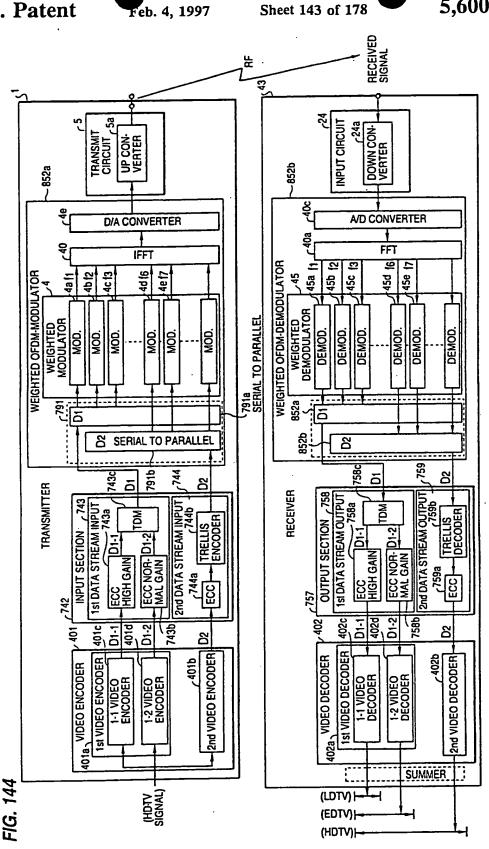


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FIG. 142







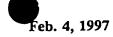


FIG. 145(a)

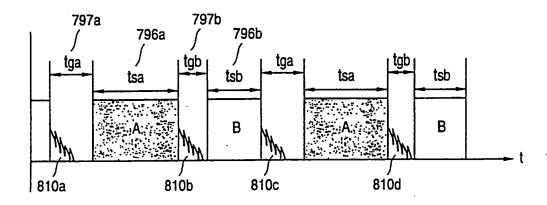
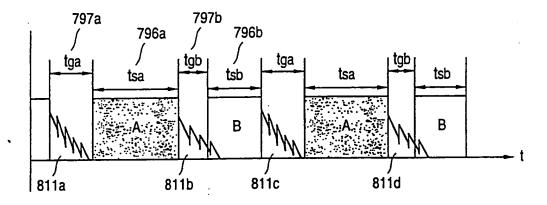
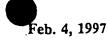
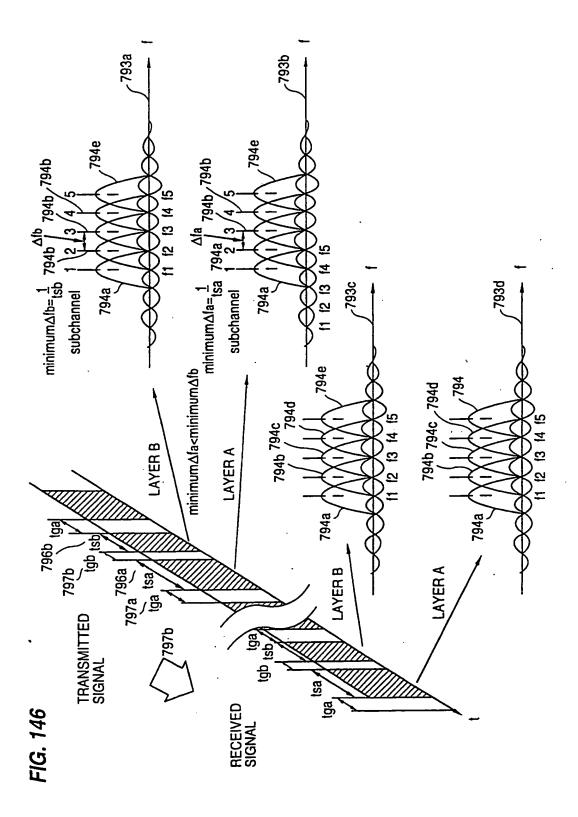
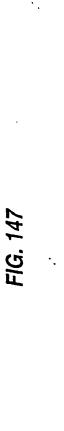


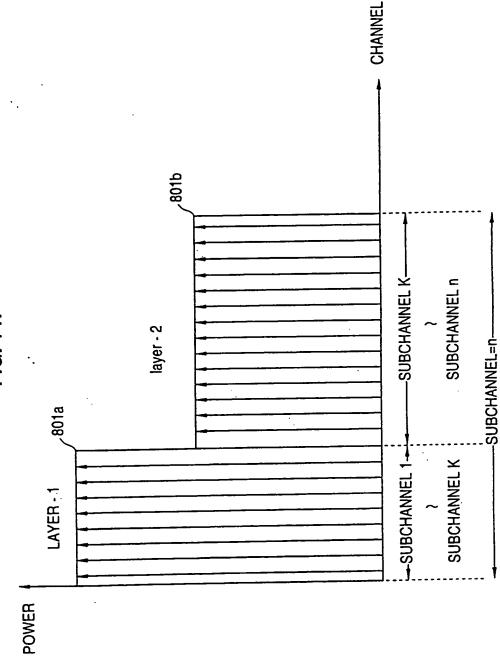
FIG. 145(b)



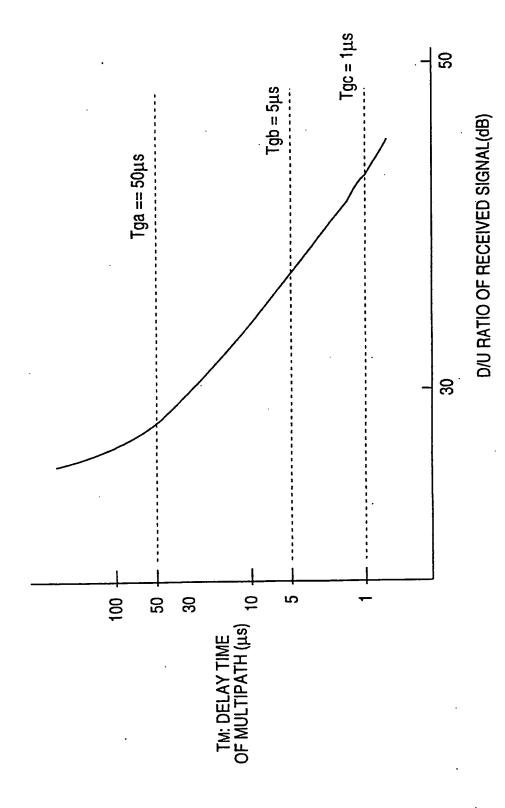


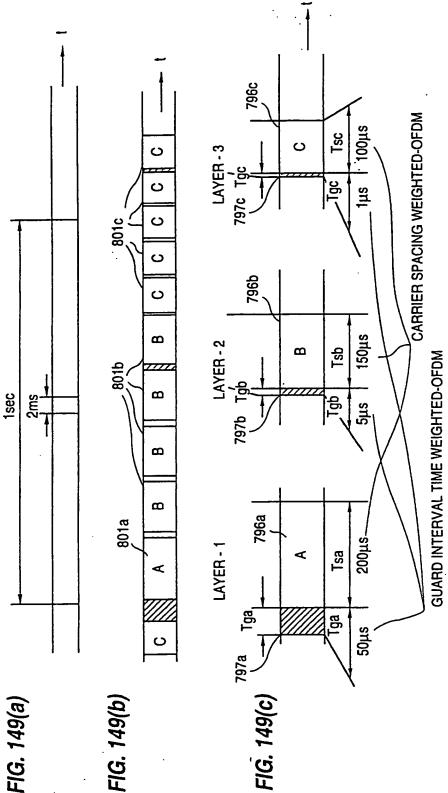


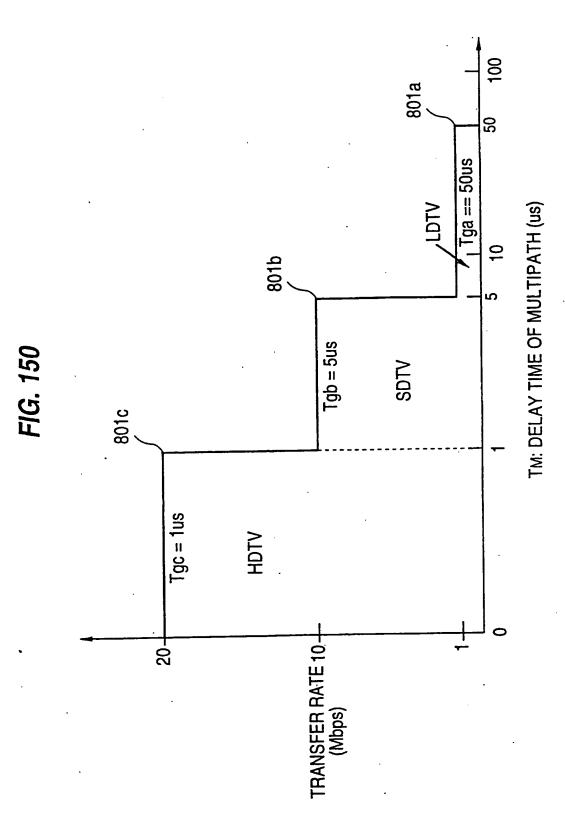




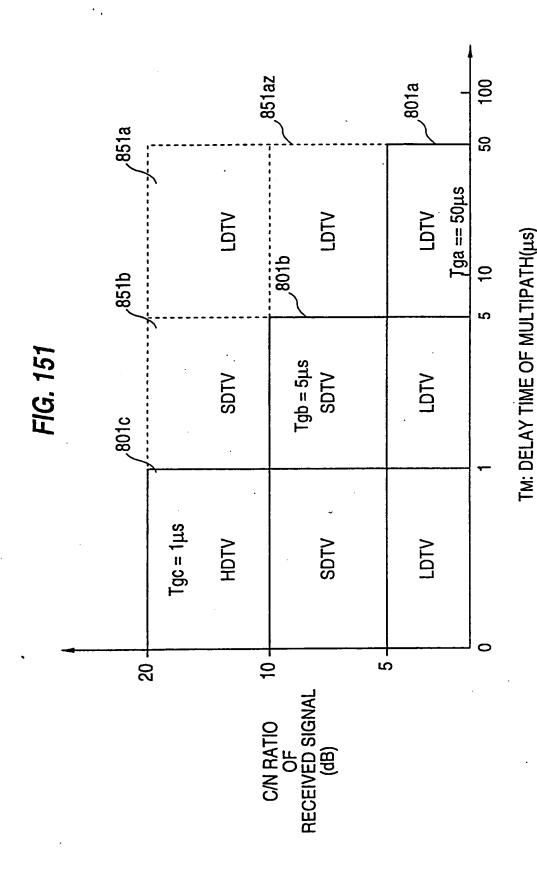


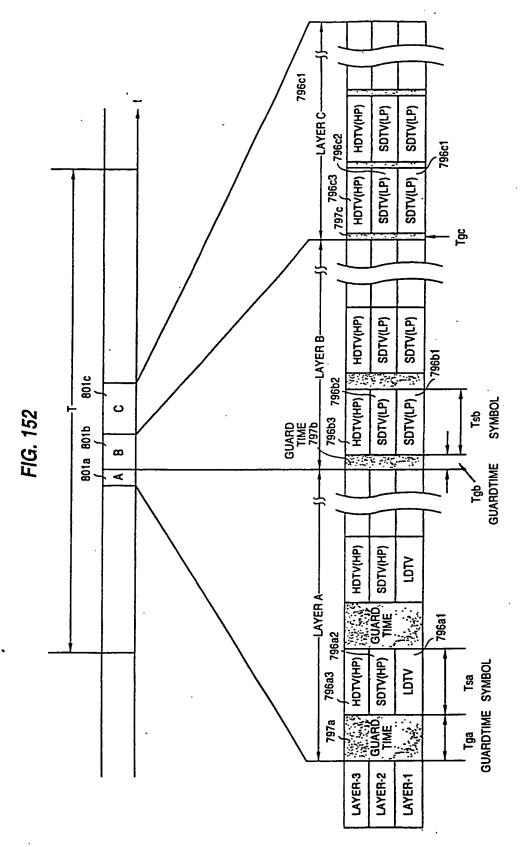




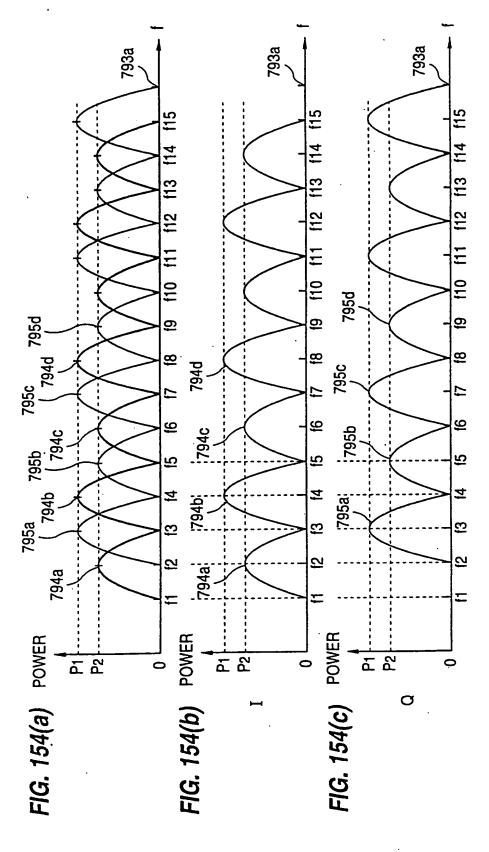


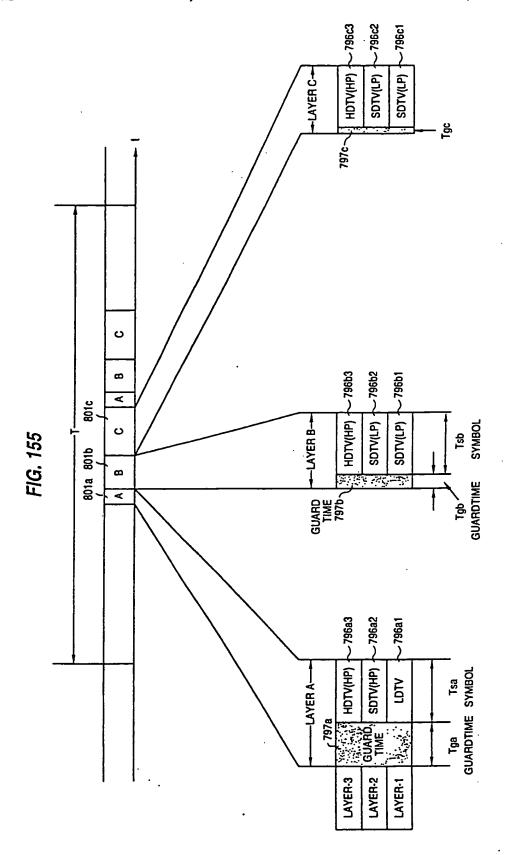


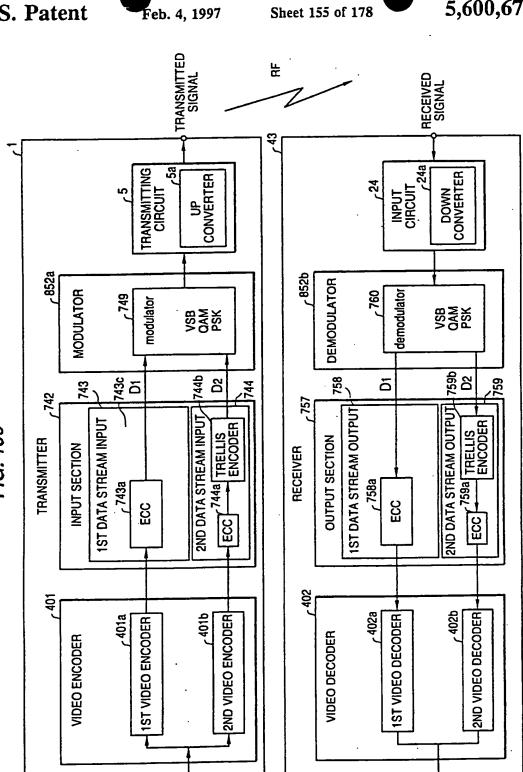


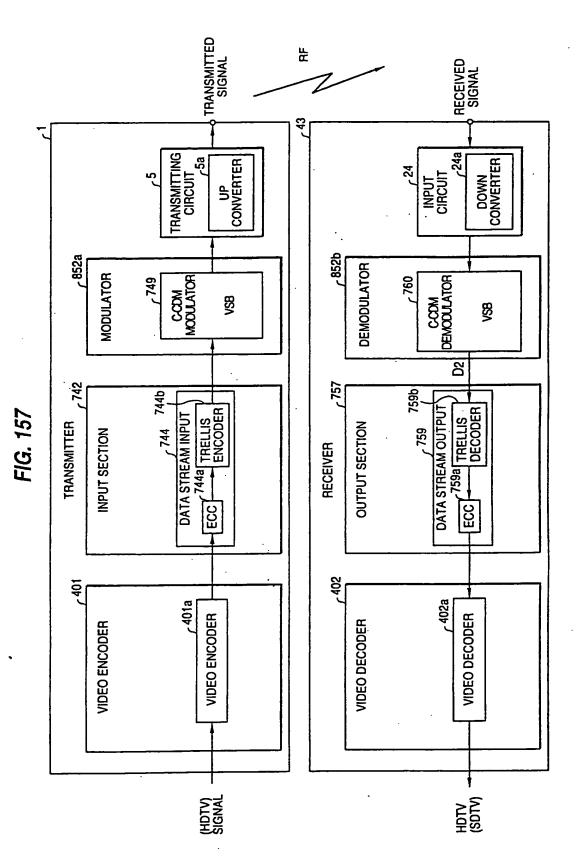


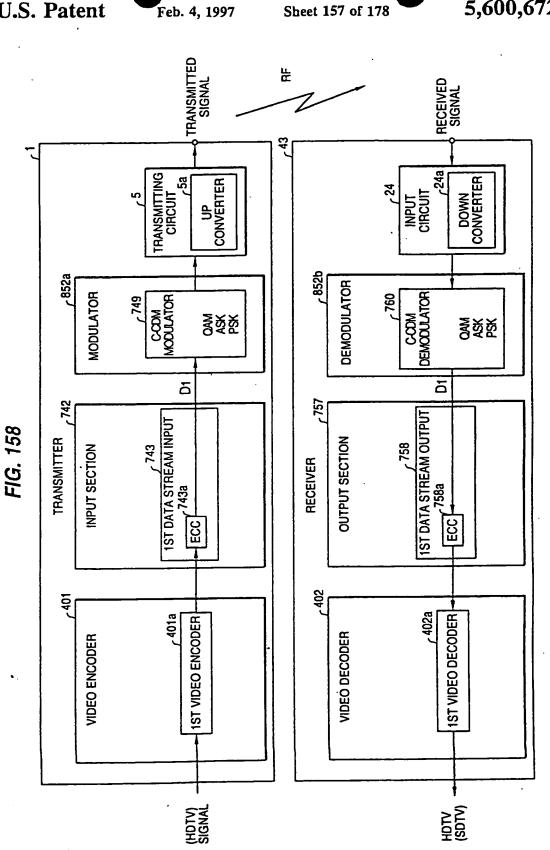
(D/U = 30dB)DELAY TIME OF MULTIPATH SIGNAL ( $\mu$ s) LAYER1-A 801a LAYER2-B -801b LAYER3-C -801c TRANSFER RATE (Mbps) FIG. 153 25 198 198 CNR(dB)

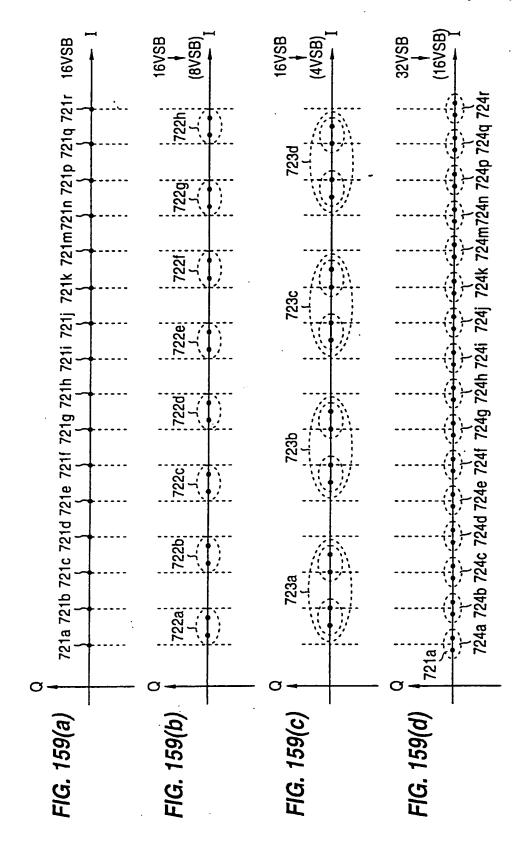




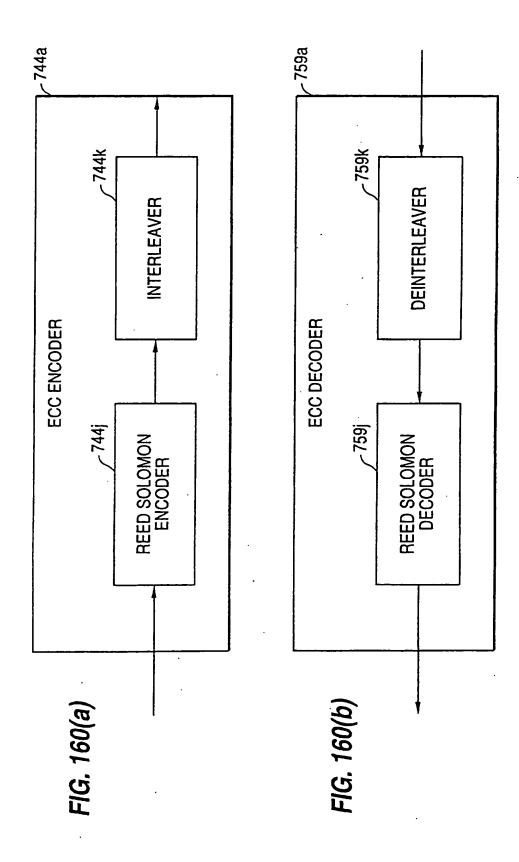


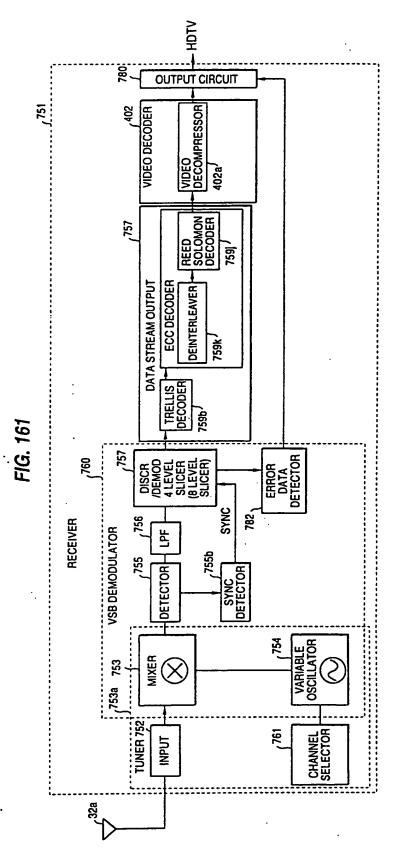


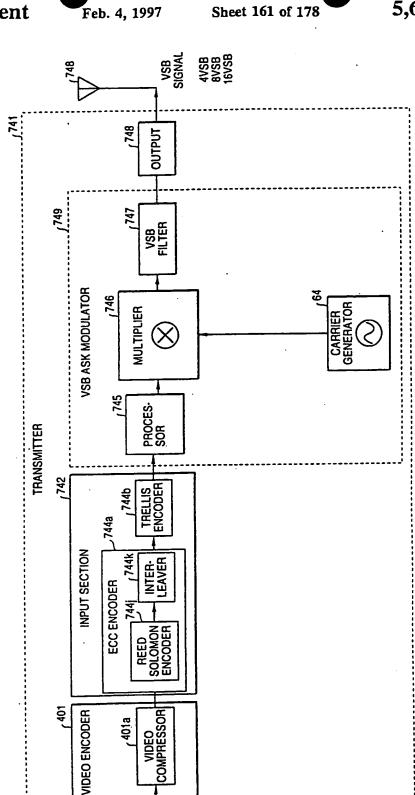


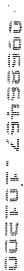


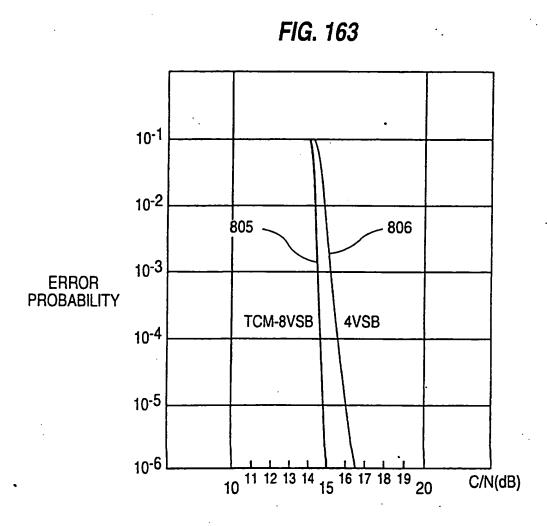




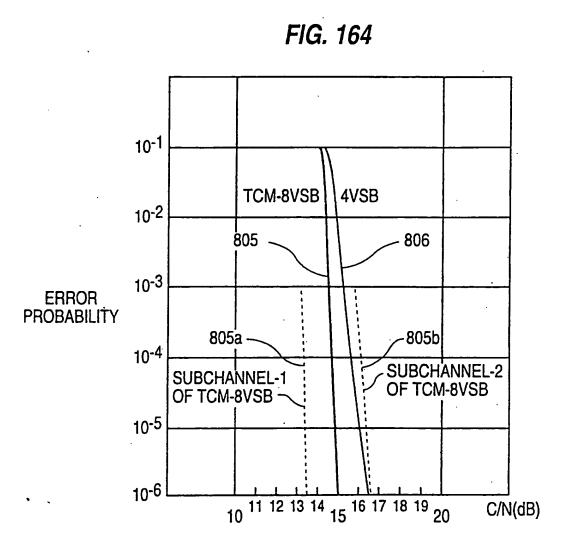


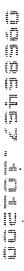


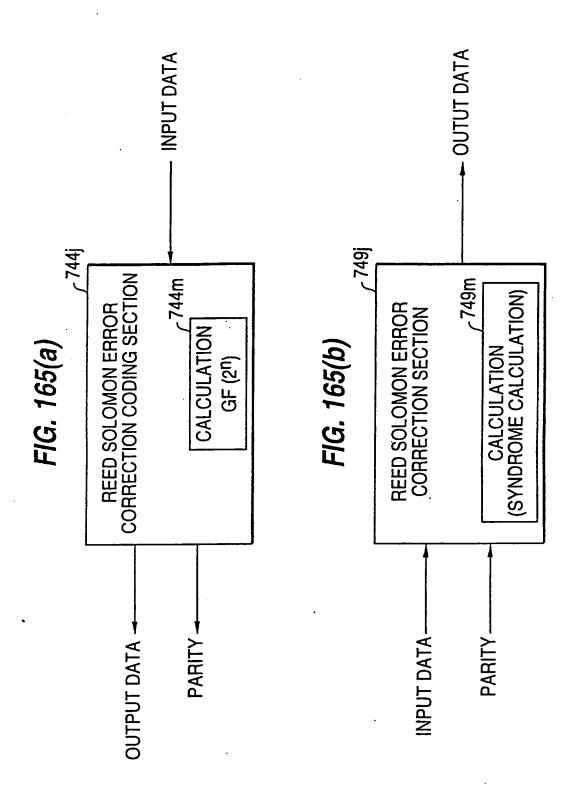






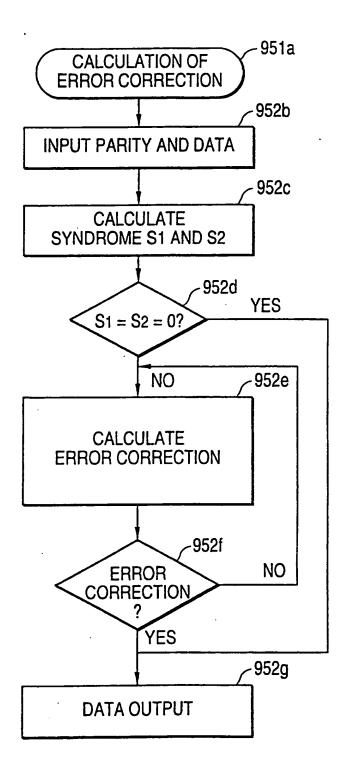


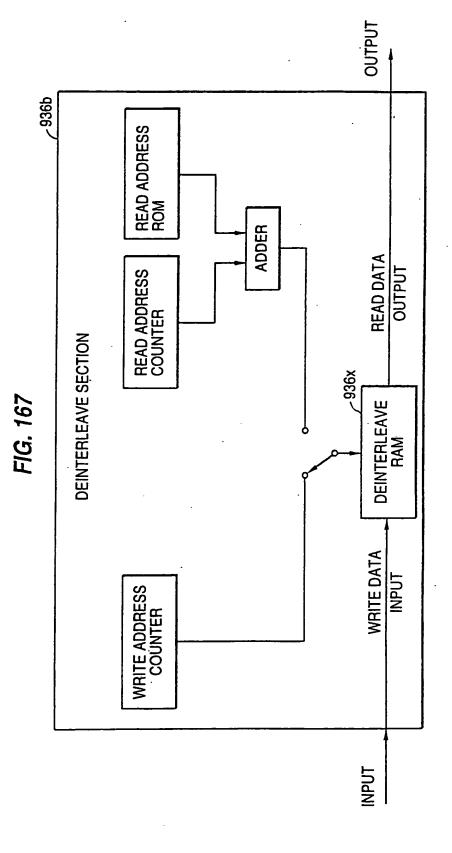




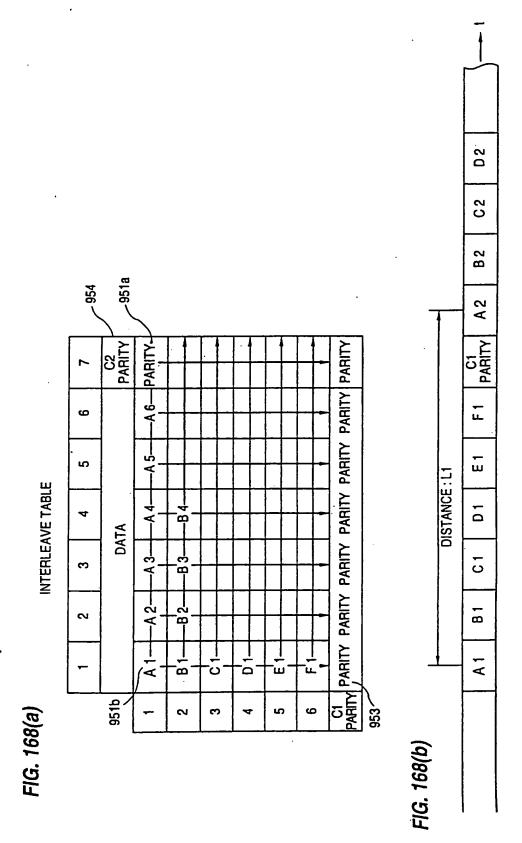
Feb. 4, 1997

FIG. 166

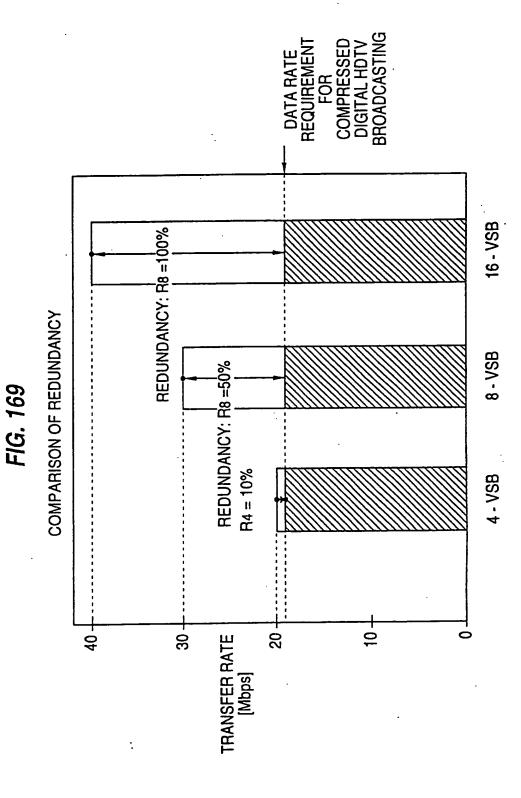




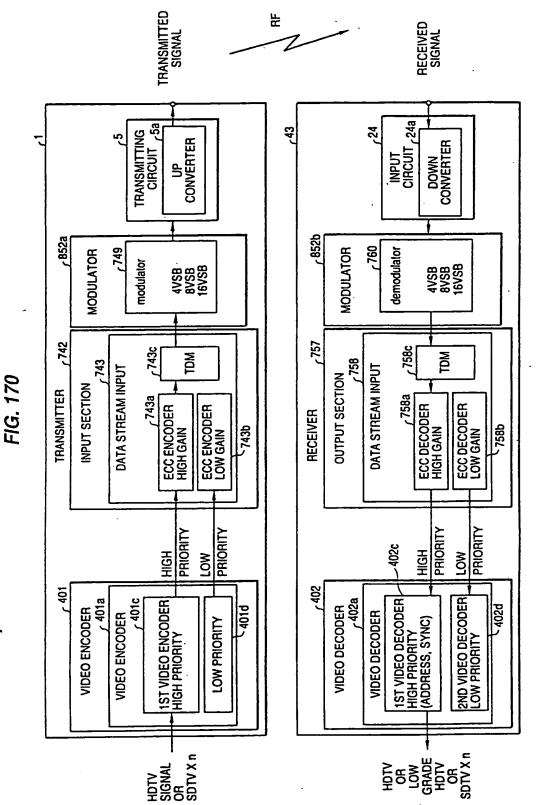
L. J. J. J. J. J. J. J. J.



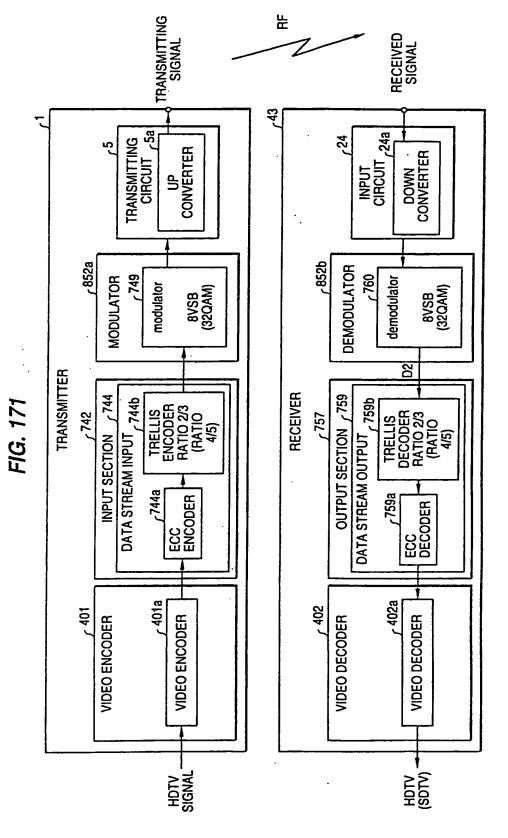




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Feb. 4, 1997

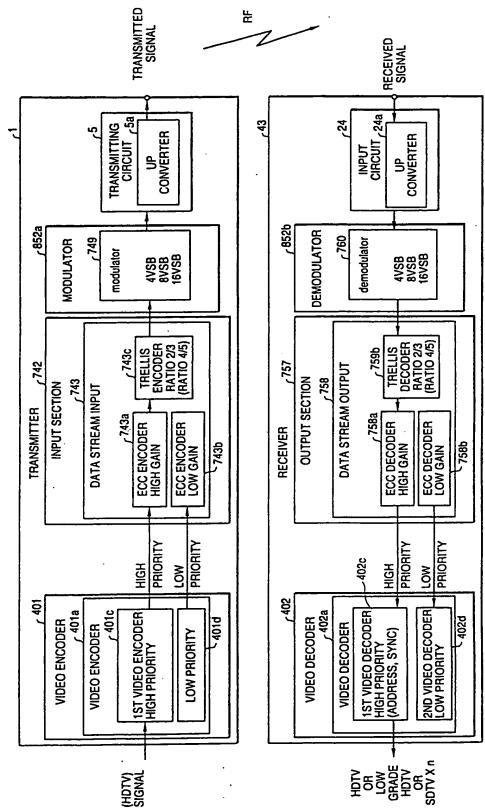
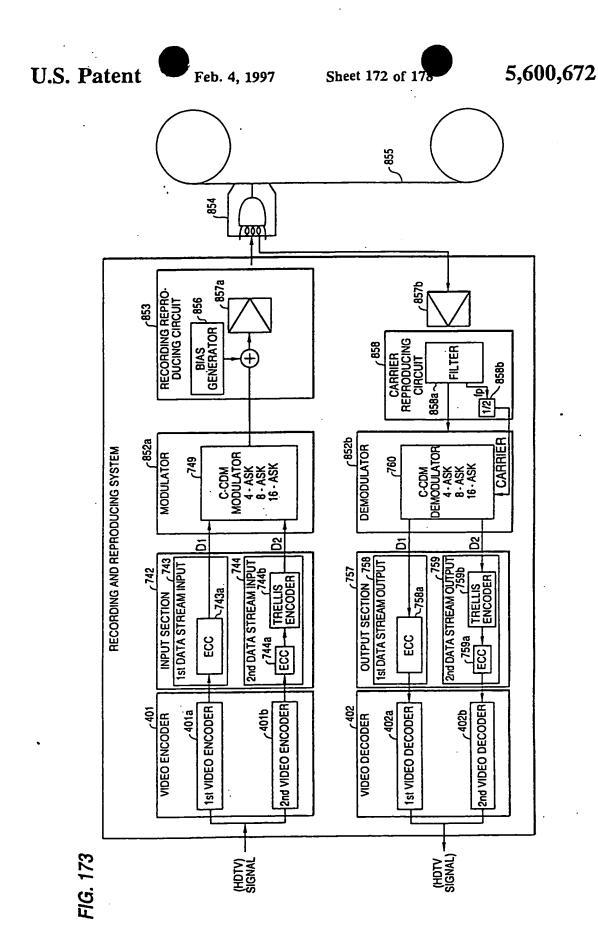
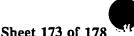
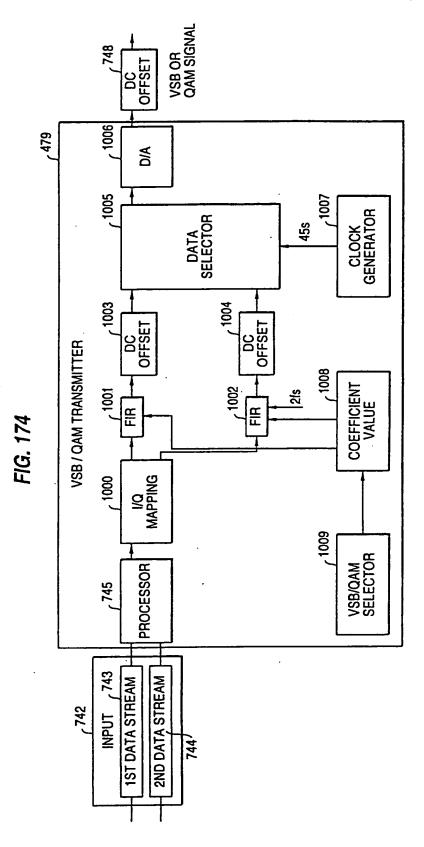


FIG. 172



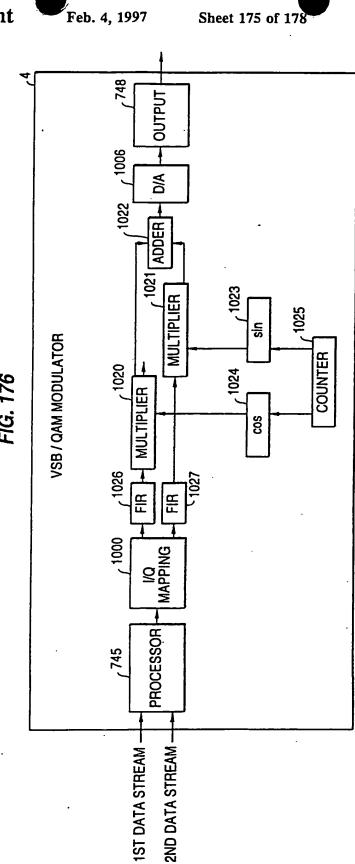




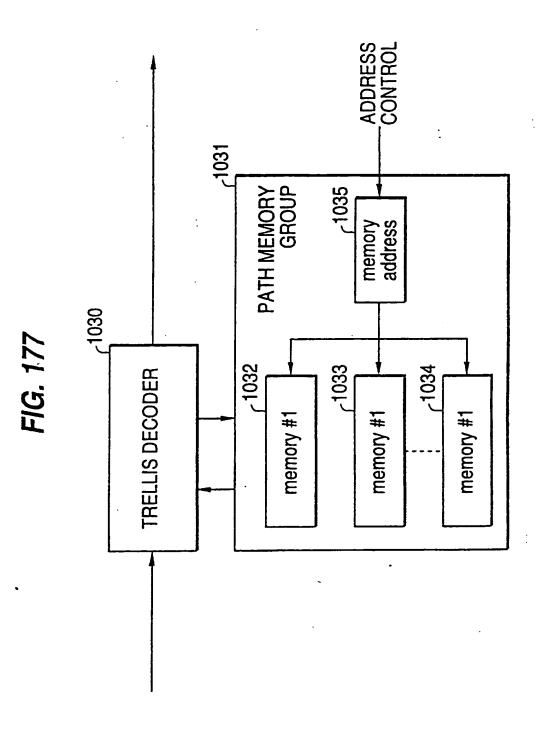
Feb. 4, 1997

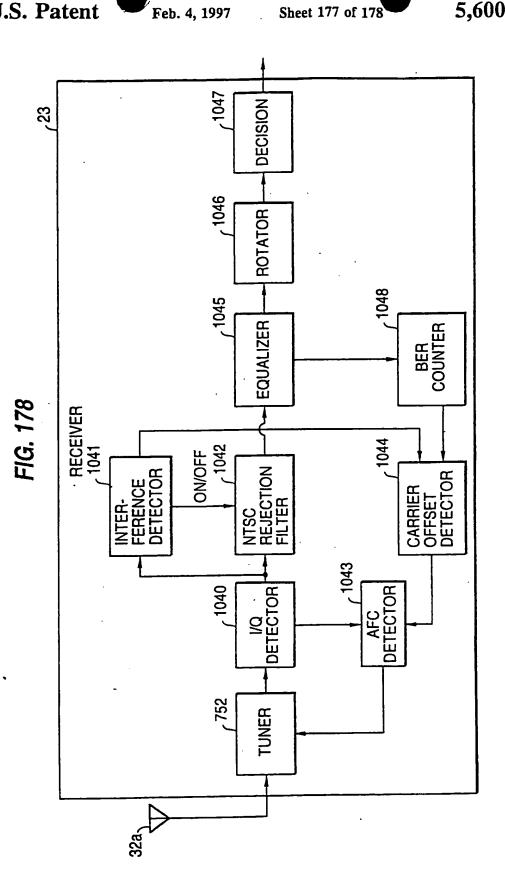
<u>nesselty unasin</u>

748 OUTPUT 1012 CLOCK GENERATOR D/A 4fs 띪 **VSB / QAM TRANSMITTER** I/O SELECTOR 1010 VSB/QAM SELECTOR O I/Q MAPPING 1000 **PROCESSOR** IST DATA STREAM — 2ND DATA STREAM -











Feb. 4, 1997 DECISION 1062 AFC DET CARRIER REPRODUCER CAN RS DECODER EQUALIZER CLOCK REPRODUCER AGC ROLL OFF FILTER VSB/QAM RECEIVER GATE SIGNAL AFC CLOCK <u>≅</u>.. 8 GATE SIGNAL GENERATOR CONVERTER VSB det SAW TUNER

FIG. 179